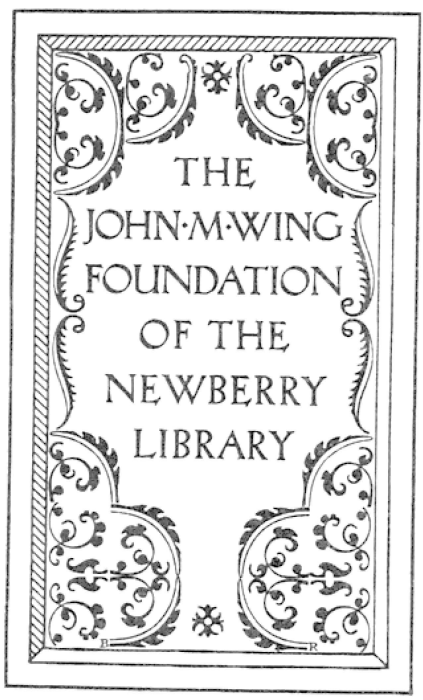
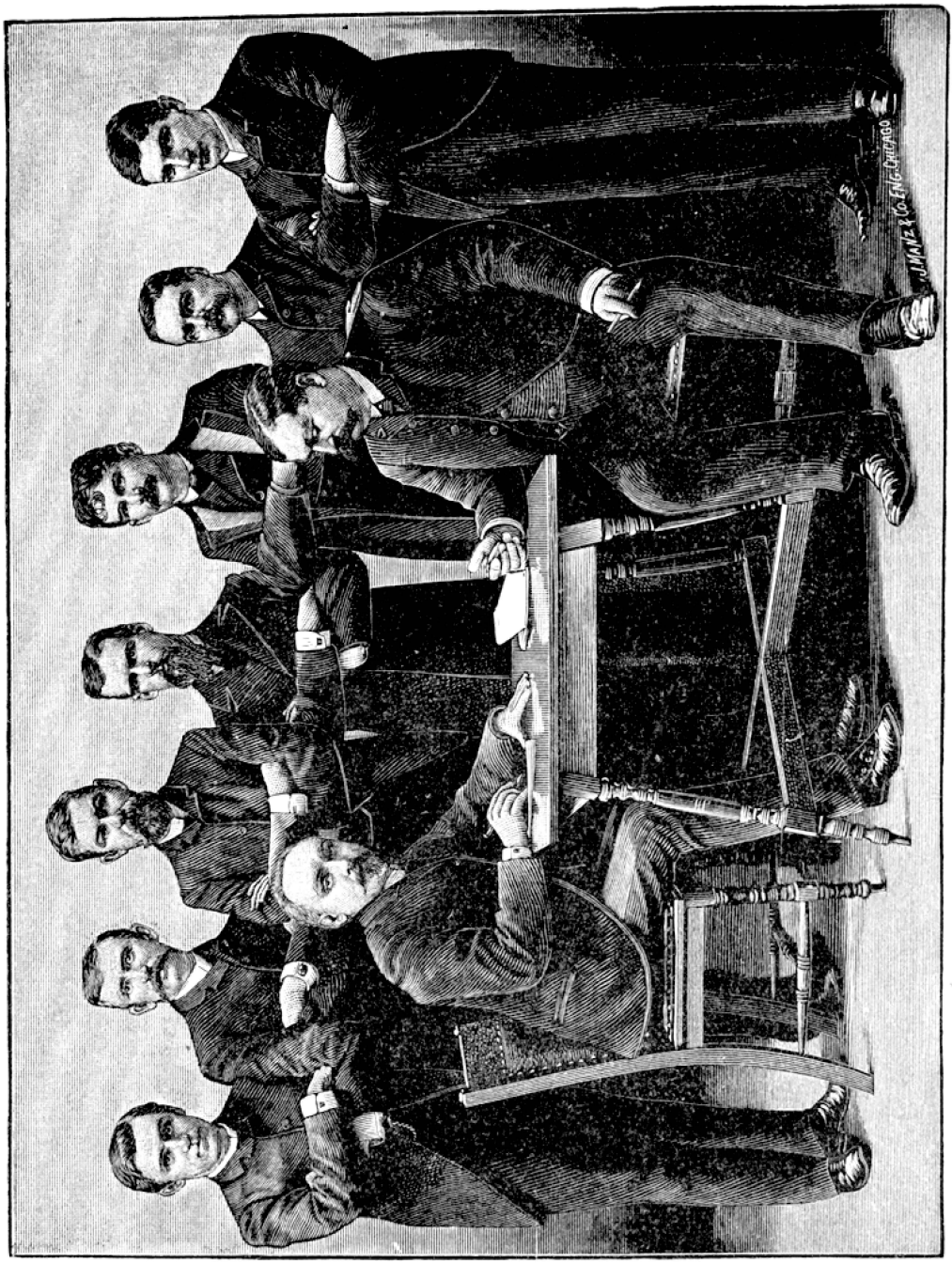
FAST TYPESETTING.



THE CHICAGO CONTESTANTS.



1. Clinton W. De Jarnatt—2. Joseph M. Hudson—3. William J. Creevy—4. William C. Barnes—5. Thomas C. Levy—6. Joseph W. McCann—7. Leo Monheimer. Sitting figures—Right, Referee A. H. McLaughlin, President Chicago Union; left, Fred. G. Rae, proofreader.

A COLLATION OF FACTS

RELATIVE TO

FAST TYPESETTING,

TOGETHER WITH

PORTRAITS AND BIOGRAPHIES

OF THE MORE FAMOUS SWIFT COMPOSITORS, AND AN AUTHENTIC RECORD OF THE SEVERAL PUBLIC TOURNAMENTS AND MATCHES AT TYPE-SETTING, WITH TABULATED STATEMENTS OF THE WORK PERFORMED IN THE VARIOUS CONTESTS, AND A REPRINT OF THE COPY FROM WHICH THE BEST RECORDS WERE MADE;

ALSO,

HINTS AND SUGGESTIONS ON TYPESETTING.

EDITED AND COMPILED BY

WILLIAM C. BARNES. JOSEPH W. McCANN.

ALEXANDER DUGUID.

NEW YORK:
CONCORD CO-OPERATIVE PRINTING COMPANY, LD.,
47 and 49 Centre Street.

MDCCCLXXXVII.

TO THE

INTERNATIONAL TYPOGRAPHICAL UNION

THIS WORK

IS

RESPECTFULLY DEDICATED

PREFACE.

In presenting to the printers of the United States this work, we are aware that it lacks the elements of completeness which will make it acceptable to all. It has been our endeavor to gather the names of swift compositors with *authenticated public records*, be their performance meritorious, mediocre or ordinary. Never before has an attempt been made to collate facts in reference to fast typesetting and fast typesetters, and if we have omitted names deserving of mention, it has certainly not been through design, nor because we have not used our best endeavors to make the work complete; and we ask that indulgence which should be accorded first efforts.

We respectfully tender our thanks to Mr. R. S. Meniman, publisher *Printers' Circular*, Philadelphia, Pa., and to Messrs. H. O. Shepard and A. C. Cameron, of the *Inland Printer*, Chicago, for their many courtesies and kindnesses, and the valuable assistance rendered by them in the preparation of this work.

Very respectfully,

WILLIAM C. BARNES.
ALEXANDER DUGUID.
JOSEPH MCCANN.

INTRODUCTION.

It is a fact that the compositors of to-day work at a greater speed than did the printers of thirty years ago. It is also true that the surroundings of the compositor of to-day are entirely different from those which then environed printers. In using the words "*compositor* of to-day and *printer* of thirty years ago," we have a purpose. We do not mean to *apologize* for the *printer* of those days. He has no need of the services of an apologist. He was in every way superior as a workman to the compositor of to-day. He could set type, impose forms and do presswork. He was what his title implies—*a printer*.

To-day, the demands of modern journalism demand a subdivison of the printers' trade, and the matter of speed in each department has become the requisite of prime importance. As a consequence, we have compositors, pressmen, make-ups, and few of them printers. This will explain why the compositors of to-day can handle type more swiftly than the printers of ante-bellum days. Then, to secure employment, he must needs be able to perform all the different duties appertaining to the trade; now, he has but to be proficient in one. Hence, by devoting his whole energies to the one branch he becomes more proficient in that particular line, than if it were necessary for him to learn each division of the trade.

Forty years ago the printer who could set 1,200 ems per hour was deemed a fairly quick hand; at 1,400, he was fast; 1,700, was wonderful, and 2,000 ems per hour was considered among the physical impossibilities. Yet within sixteen years at least seven compositors have in public contests succeeded in surpassing 2,000 ems per hour, viz.: Arensberg (New York, February 19, 1870), 2,064 ems; McCann (New York, June 4, 1885), 2,123; Somers (New York, June 4, 1885), 2,050; Barnes (New York, September 10, 1885), 2,160; Farquhar (Rochester, March 1, 1886), 2,025; Duguid (Philadelphia, March 27, 1886), 3,416 in 1½ hours; McCann (Philadelphia, March 27, 1886), 3,347 in 1½ hours; Levy (Philadelphia, March 27, 1886), 3,119 in 1½ hours; Barnes (Philadelphia, March 18, 1886), 3,220 in 1½ hours.

Among compositors the question is frequently asked: "Is it possible to acquire the art of setting type fast, or is it a natural gift?" It is not proposed in this book to give any definite rules whereby a compositor may attain *any given rate* of speed; but it *is* proposed to make suggestions, throw out hints and give advice which, if followed, will certainly enable you to set type faster than you now do. The art of setting type swiftly *can* be acquired *if* the aspirant be blessed by nature with a fairly healthy body, steady nerves and good eyesight.

Now, presupposing you to be without infirmity or deformity, with a quiet and controllable set of nerves, and strong, keen, quick eyes, and that

you are not addicted to immoderate drinking or the use of tobacco (which have a tendency to destroy the nerves, weaken the intellect and debilitate the physical system), the following advice, if acted on, will enable you to become, if not as swift as the swiftest, at least much quicker in your work:

The first rule to be observed is: "A place for everything and everything in its place." "Order is Heaven's first law," and if you would become a swift workman it should also be your first law. Many compositors, when they want a side-sort or an upper-case sort, seek it in a particular box; if they fail to find it there, they go hunting around in neighboring boxes or on the other side of the case for it. Why? Simply because they have not learned this first rule. Now, why not have your case clean? It is just as easy as to have the type scattered around regardless of the fact that there is a separate compartment for each letter or character. Have a box for your brackets or your asterisks or any other types, and when you visit that particular box and find it empty you may know there are no such types in your case. Result: Time and annoyance saved.

Second, cleanliness in distribution is necessary to fast work. The compositor who spends any considerable time correcting cannot expect to net as much as the one who seldom "stands sideways at the case," or, if he does, must work harder for the same amount of money.

Third, a familiarity with the leading poets, with the geography of the world, with the Latin and French phrases in common use, and with the celebrated names of history and fiction is very necessary to a ready reading of all the copy with which printers are thrown in contact. Scarcely a day passes that a compositor does not meet with manuscript containing a quotation, a name or a reference which a liberal course of reading would have enabled him readily to decipher, but ignorance of which costs him the loss of many minutes, and consequently of dollars.

Fourth, it is "slouchy" and unworkmanlike to have your cases "littered up" with rules, dashes and leads. There is a proper place for these things when not in use; and if it be necessary to have them about your case for the work in hand, you should at least keep them separated and "stacked" in order—rules in one place, leads in another, etc.

Fifth, your cases should be "blown out" free from dirt and dust as often as necessary.

Sixth, neither your quad box nor any other box is the proper receptacle for broken type; if a type has become worthless, the proper thing to do is to break it and throw it away—not impede your work by mixing it in with good material.

The necessary qualifications for fast composition, therefore, may be summed up as follows: A healthy physical condition, good eyesight, steady nerves, correct distribution, intelligence, cleanliness and order.

As to the several theories regarding the particular way in which to catch hold of a letter, the best manner of handling the types, etc., each compositor must determine for himself by actual practical test of the ideas set forth in the following pages.

HOW TO LEARN TO SET TYPE SWIFTLY.

BY WILLIAM C. BARNES.

Many compositors say they believe the ability to set type fast is a "natural gift." Well, it *is* a natural gift to a certain degree—in so far as good eyesight, steady nerves, etc., are natural. But anyone may develop a higher rate of speed by following certain instructions. Now, why is it one man can set a greater number of types than another in a given time? Certainly not because one man's arm moves faster than another's. On the contrary, we all have at some time seen a compositor's arm moving at a rate of speed which warranted the belief that he was setting at least 2,500 per hour, and next morning, after seven hours of hard labor, he would mark up 6,700 on his string, with a calm and satisfied air which gave evidence that he had realized his wildest expectations. Then, again, how often have we met with a man whose arm moved so slowly that we thought he was tired or didn't care whether he worked or not, and how great was our astonishment next morning to see him hang up 11,000 in a careless, off-hand manner, as if it were nothing unusual. Why does the man with a slow motion set twice as much as he of the quick motion? Simply because he wastes no motions. Every time his hand makes the round trip he has accomplished something—in other words he gets a type nearly every time he goes for it, while your slow man with a quick motion goes, perhaps, three or four times for a letter. Now, as primarily the object to be attained is surety of "pick" in setting type fast, any advice, to be of value, must include instruction in the art (or "knack") of getting a letter every time you go for it. The following instructions, if persisted in, will certainly increase your speed—perhaps not to 2,000 per hour, for your physical condition may not admit of it, but certainly from 200 to 500 ems per hour. I developed from 1,200 per hour, maximum, to 2,160, maximum, per hour, by following the rules given below, and what one has done, you can do. Don't let it be said anyone can do what you cannot. It will take several months maybe, but if you keep at it with determination you will attain it. Here is the secret, if secret it be: Drop your own motion, whatever it be, and set at a much slower rate of speed than your hand is accustomed to. When you go to a box for a type and fail to get it, come to the stick and pretend to make a deposit, then return to the case after the letter, or some other letter in the same box, and keep this up until you get a type on the pick. In like manner, if you pick up two types, describe the full motion by coming to the stick and making a pretense of dumping a type, then return to the case, lay one down if you can readily, if not, drop them both and come again to the stick and return for the type. But this rule does not apply to any box to the left of the "m" box nor the right of the "s" box. There is an apparent loss of

time in doing this, but the loss is only apparent, not real, and you will be surprised to find that with the slow motion you will accumulate more thousands than with your hitherto quicker motion. This is the whole secret, and the philosophy of it is this; When you have the word "the," for instance, to set up, your brain sends a dispatch to your hand to go to the "t," the "h" and the "e" boxes in turn for a letter. The motion described above is an educating motion. It teaches your hand to move mechanically, without assistance from the brain, and allows your brain to be employed on some other portion of the work—as reading your copy. It is not expected that you will always have to return to the case for a type. Soon you will not miss many letters, and if you keep practicing this educating motion, you will, in a short time, be able to set three or four lines without missing a letter. When I began to learn this motion, I went as many as ten times for a single type; now I can pick up a couple of hundred without missing one. In the matter of type to the left of the "m" box and the right of the "s" box, the distance to be covered would be a loss of time in attempting to carry out the idea, and besides, the boxes are too small to make you sure of *ever* getting a type on the pick. In the case of these smaller boxes, you must keep your fingers in the box until you get what you went for. The rule only applies to the body of the case—the larger boxes.

Position at the Case.—The case should be not more than two inches higher than your elbow—one inch is better. This allows a free circulation of blood in both arms, and a freedom from weariness in the arms and shoulders consequent upon holding the arms too high. Stand erect at the case, with the head inclined forward very slightly. Do not wear high-heeled shoes, as they throw the body forward, and the effort to preserve your perpendicular would be tiring to the muscles in the small of the back. This accounts for the pain in the back many compositors complain of. Do not stand stiffly. Let your body move a little from side to side. When you wish an em-quad, allow your body to "tilt" to the right just a trifle, so that your stick will be over the "a" box; when a "b," or a "v," or an "l" is wanted, "tilt" your body slightly to the left, so that your hand rests on the left of the "u" box. The distance from the case depends upon the length of your arms and your height. A tall person with long arms must stand farther from the case than he who is short of stature or with arms not so long. The stomach should be from one to four inches from the space box, not more. Follow your right hand with your stick from side to side of the case, but not above the centre of the "h" box, as if you do you will tire out muscles which were not intended for use in setting type, and necessarily throw your body forward and induce chest troubles and stooping gait.

The Eye.—Your eye should be in advance of your hand as much as possible—that is, when your eye has located a type and your hand has started for it, look at a type in the next box to be visited; this is only acquired after persistent practice, and is the foundation of the remark you will often hear made that "the secret of fast typesetting lies in the eye."

Spacing.—When nearing the end of your line, "size up" about how much more you think will come into the line, and if a couple of extra spaces will be needed, put them in as you go along.

Manner of Catching Hold of the Type.—As to catching a type by the

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head, this is a matter of habit; Mr. Duguid and Mr. McCann always try to do so, and I take it any way it happens to lay and turn it to the proper position in my fingers before reaching the stick.

Reading the Copy.—Do not take too much copy into your head at once; if you do you render yourself liable to "outs"; from half a line to a line is enough; "catch it on the fly," so to speak—*i. e.*, when you are setting the word "and" and have located the position of the "d" you have the time occupied in picking up two types (the "d" and the space) to look at your copy, as it is not necessary to see a space before you pick it.

Holding the Stick.—Mr. McCann's ideas on this point, given farther on, are identical with mine. Therefore, a repetition would be superfluous.

Position of the Types in the Case.—Frequent and violent shaking of the case has a tendency to "pack" the types and wedge them in tightly. A moment's reflection will show you that to be able to pick a type from the case quickly it is necessary that that type should be easy of access. Now, when your types become "packed," as they will with the best of care, do not shake your case at all, as that will only pack them more solidly. Take the sharp edge of your rule and run it down against each partition of the box, and scrape the types up to the centre. The result will be a little pyramid of types. Then, with your rule at an angle of about 45 degrees, draw it gently over the top of the pyramid and all your types will lay loosely and in the best possible position for quick and easy picking. It may take you a little longer time than if you shook your case, but you can set type for an hour one-fourth faster than if you did shake it. This I consider the *most important* hint relative to fast typesetting.

A List of "Don'ts."—Don't sit down much; if you are in proper condition to work you should be well able to stand up the whole of the first half of a day's work. Don't put one foot up on the cross-bar of the frame, then the other. Don't "bob." Don't click your type on the centre-piece of the case or on your rule. Don't fumble around in a box for a type. Don't hold on to a type as if you hated to part with it. Don't work the type up and down in your stick with your left thumb. Don't loll on the case; have some style about you and stand up to your work as if you weren't afraid of it. Don't wave a type in the air, as if you were saying, "Hurrah! I've got it." Don't wander about the case with a type after you've got it; bring it right to the stick and deposit it. Never work when you feel tired; if from long exertion you cannot stand erect at the case and your body feels as if it were settling down on your hips, this is indication that the muscles of the back are tired out and must have rest before they will be able to perform their proper functions; this is when a "sub" comes in handy.

Don't do any of these foolish and profitless things; get a type on the pick as nearly as you can, apply yourself industriously to following the rules given above and do not expect to increase your speed in a week. Be patient and persevering, and there is no doubt but you will develop a rapidity and accuracy of motion that will amply repay you for your time and give a satisfaction that is represented by dollars and cents.

BY JOSEPH W. McCANN.

We have all, at some time or another, heard printers remark, when the subject of rapid typesetting is on the tapis: "Oh, it's impossible for every

man to be a rapid typesetter; it is a gift; a man has got to be peculiarly constituted in order to be a fast typesetter," and such like. All of these statements I deny, for I have known many typesetters—myself among the number—who have been for years comparatively slow at picking up type, but who, after breaking themselves of their "false motions" and unnecessary juggling of the type and adopting a simple system of taking the type from the case and placing it in the stick without flourishing it in the air, turning it two or three times in their fingers or going back once or twice with the same type to the box from whence they first took it, have become fast typesetters. I do not pretend in these suggestions to make every printer a lightning typesetter, but I do pretend to improve every printer who reads them and practices them diligently. There are several causes why so many typos are unable to set type at an average rate of speed although having all the qualities necessary—energy, ambition and intelligence—to become fast typesetters. But the great and most prevalent cause is the manner in which they rush to the box for a type without first looking to see how the type lays, and, when they do get it in their fingers, depending on their feeling of the type to get the nick turned outward and placing it properly in the stick. Another cause is that a great number of printers try to do more than they are able. He who runs too fast must stumble. And so it is in setting type. We have all seen the man who takes his time and lifts the type with a regular easy motion beat out of sight the man who swings his arm around like a windmill and bobs his head and body up and down like a man turning the handle of an old-fashioned mangle. It will be my endeavor in these suggestions to show how these things may be avoided. But I would first impress upon the minds of those who may desire to profit by them that it is only by patient and persistent practice of these suggestions that one can hope to attain excellence in this branch of the printing business. The first thing to be looked to is:

The Height of the Cases.—I approve of having your cases about half an inch higher than the elbow when standing, or at such an elevation as will allow the left arm to pass easily over the case. This gives full command of the case, and saves a good deal of labor and straining of the body and arm in holding up the arm when the case is too high. Stand perfectly erect, not stiffly, but in an easy manner, with the heels almost touching, and the body about an inch from the frame. Both the elevation of the case and the manner of standing at the frame should be observed, as they are important in enabling you to carry out the other suggestions given below.

Holding the Stick.—The proper way to hold the stick is another thing that should be studied. Do not grasp the stick in the centre of the hand, but hold it loosely on the joints of the fingers, with the tips of the fingers just touching the rule to keep it in position. The farthest end of the stick should be lower than the end nearest the body and kept as close to the case as possible. This enables you to bring the type straight from the case to the stick, and obviates the necessity of making a circle with the right hand every time a type is put in the stick, which consumes in a night's work more time than one would imagine. At first thought it may seem a trifling matter to give so much space to, but "trifles make perfection," and this, if closely studied and diligently practiced, will go a very

long way toward perfection in typesetting. For instance, if you pick up 10,000 pieces of metal in five hours, and the average distance traveled from the case to the stick be five inches, the total distance traversed by the right hand is 100,000 inches. But suppose you raise the hand with every type and make a half circle, you will increase the space traversed by the hand to about 150,000 inches, which will necessitate a corresponding amount of time lost. Hold the wrist and lower part of the arm loose or half dead, as it were. It is a great mistake to hold the wrist stiffly, as it increases your labor and prevents you from catching the type properly.

Reading the Copy.—In reading the copy it should be made a point to take about a line into the mind at a time, and never to look more than once at the same line of copy.

Picking up the Type.—Simplicity in setting type, like everything else, should be strictly observed. Look at the type before you go for it; make a point to always catch it gently by the head and bring it in a straight line to the stick, without twirling it in the air or looking at it after you have got it in your fingers. This can be easily done with a little practice. Don't try to go fast at first, for it causes you to get confused and to make false motions. The best way to illustrate this is to take a watch and put it before you on the case, take a line of copy in your head and try to set and space the line inside of a minute. There are an average of about fifty-one types in each nonpareil line of ordinary newspaper measure, say twenty-seven ems wide. There are sixty seconds in a minute. Try and set a type every second. If you set and space the line inside of sixty seconds you are going at the rate of 1,620 ems per hour.

The Eye.—But the training of the eye is the great secret in fast and accurate typesetting. As a matter of fact almost all compositors move their hand to the type in the box before looking at it. This is wrong; it is the hand guiding the eye, instead of, as it should be, the eye guiding the hand. First look at the type, then drive the hand toward it rapidly in a straight line and as soon as you touch the type turn your eye in the direction of the box where the next type you require lies; in the meantime you are bringing the preceding type to the stick, always keeping the eye ahead of the hand. By this you will make a regular motion. All the fast typesetters I have ever known practice this more or less.

Moving the Left Hand over the Case.—I approve of moving your left hand over the case, following the right, in setting type. But in doing this it is not always necessary to go all over the case with the left hand. For instance, if I want to set the words "of the" I would bring my left hand right up to the "o" box, but would not move it up to the "f." I should keep it at the "o" box, bring down the "f," and while doing this would be moving down the left hand and looking toward the space box. But if I were setting the word "necessary" I should move my left hand over the case to each box, keeping the left hand as much out of the way of the right as possible.

I will summarize the thing by saying: Stand close to the case, hold the stick loosely, try and retain about a line of copy at a time, move the hand forward quickly for the type, make sure to catch it gently by the head and keep your eye ahead of your hand.

JOSEPH W. McCANN.

BY ALEXANDER DUGUID.

There is no royal road to fast typesetting. All must climb alike by hard, persevering work. To become a rapid compositor a man must have a quick eye, steady nerves, ready, retentive mind and good health and physical strength. Having all these, it still requires persevering practice for weeks and months and years. Setting type in the close atmosphere of a printing office, especially at night, is very exhausting work, and therefore care should be taken to select the most natural method of working. A slow, steady motion is generally considered the best, but as the strain is upon the nerves, not on the muscles, where it needs constant watching to keep a steady motion, this is an error. That motion is the best that requires the least drain on the nervous system. Moderate speed can be acquired by a slow, steady motion; about the same with a quick, stumbling motion; but to reach about 2,000 an hour a *quick, steady* motion is required. The best medical authorities agree that tobacco is very injurious to the nervous system, and therefore should not be used in any form. Total abstinence is conducive to good health, and good health is indispensable to rapid typesetting.

In holding the stick incline it so that the type in it is almost horizontal. Let the arms do the work; do not move the body, except from side to side of the case. The case should not be too high. Pick up the type by the head, using only the thumb and first finger. Get a type every time, bring it directly to the stick, hold it steadily with the left thumb and go for another. Do not make a single unnecessary motion. Follow the hand with the stick, but not so closely as to interfere with the work of the right hand. To insure clean work, glance over each line as you space it out. In newspaper work, or where the measure is not too wide, learn to read just a line of copy at a time, and put in what extra spaces will be needed as you set the line up. Then, when you reach the end of the line, it is nearly spaced. This requires some practice, but is the greatest help in rapid typesetting. Standing is the most natural position to set type, but it is well to occasionally rest the body by sitting down, say about one hour in seven.

The following commentary on the bad habits contracted by many printers in their typesetting furnishes a fitting ending to this portion of our work:

[*From the Inland Printer, March*, 1886.]

FALSE MOTIONS.

The recent achievements of the compositors engaged in typesetting contests convey an instructive lesson which should not be overlooked by those learners who are desirous of attaining similar results. The fact that some of them accomplished the phenomenal achievement of setting 2,000 ems of solid minion per hour—that is, picking up, delivering and spacing nearly 5,000 pieces of metal, or three pieces every two seconds, shows the value of a direct and positive motion and the material results to be derived therefrom. The habit, the abominable habit, of tapping the type on the case or clicking it two or three times on the rule, or making a circle, or waving it in mid-air before depositing it in the stick, is a waste of time and energy which seriously interferes with the length of the string, and consequently with the amount in the envelope when pay-day rolls round, and should be a warning to all beginners to avoid a perni-

ALEXANDER DUGUID.

cious habit, that, once acquired, is well nigh impossible to get rid of, and which will handicap them through life, as compositors. As prevention is better than cure, to those who are willing to learn to take advice, we have a word to say.

There is no reason why you or any beginner should acquire a habit which a little care and attention at the *right time* will effectually avoid. Let us take you to the case of the model compositor, next to the case of the man who makes two or three motions to secure a letter, and then decide for yourself which style you think the most attractive or profitable. Here is one whose graceful, easy, unerring movements and attitude commands admiration. There is no flurry. His hand goes from stick to box, from box to stick with unerring accuracy. *Every movement tells.* There is no wasted energy, no false motion. Each effort places a type in the stick, and as a consequence he can discount his would-be competitor who makes three attempts to his one. On the other hand, here is a compositor whose efforts are painful to contemplate, whose body rocks like a cradle, whose endeavors put you in mind of a woodpecker drumming a tree, and who, in order to accomplish the results referred to, would have been compelled to make fifteen thousand instead of five thousand motions!

Now, if a truthful answer were given to the query, "How came you to acquire a false motion?" a large majority of the victims would, doubtless, reply: "Because I copied after some one who had it." And thus, in order to be considered "odd" or "smart," thousands are now reaping the fruits of such folly. The anxiety to be considered a fast instead of a good compositor is also responsible to a great extent. And now for the remedy. Whenever you find yourself indulging in false motions—we are speaking to beginners—*stop.* Lay down your stick. Commence again, no matter how slowly. Remember that in your case speed is a secondary consideration, as it can be acquired in course of time. Endeavor to take up each letter by the *upper* end, which will not only prevent false motions—but obviate the necessity of turning the letter before it reaches the stick. Start with the resolve to succeed. Persevere till you do succeed, and it is quite possible your record may some day outrival that of either Barnes, McCann or Arensberg.

RECORDS.

The following records are given in chronological order, the authors deeming this arrangement as satisfactory to the reader as any classification founded on merit of performance. Whenever reference is made to the "National Rules" it must be understood to mean the rules printed at the end of "Records," which rules governed the Chicago, Boston and Philadelphia matches, and also the match between McCann and Barnes. These rules were formally adopted, together with the name "National Rules," at Philadelphia, March 15, 1886, by the contestants in that tournament.

The first public American record of which we can find an account was made by Mr. Robert Bonner, proprietor of the New York *Ledger*. Mr. John F. Babcock, proprietor of the New Brunswick (N. J.) *Fredonian*, was one of the judges. The following letter from Mr. Babcock, in reply to a note of inquiry, gives full particulars of the match as also of other performances of Mr. Bonner:

OFFICE OF THE "FREDONIAN,"
NEW BRUNSWICK, N. J., June 11, 1886.

Wm. C. Barnes, Esq., New York.

DEAR SIR: In consequence of absence from home for several days, I have not found time to answer before this your communication of May 25, relative to a type-setting contest in which Robert Bonner was engaged forty years ago. At that time Bonner and I were compositors in the *American Republican* office, a morning daily, printed and published in Ann street, New York, on the southeast corner of Nassau. It was in the summer of 1846. But a few weeks previous Bonner had arrived from Hartford, Conn., and was probably not more than twenty-one years of age—I think less. He was then a very slim youth, and probably did not weigh more than 100 pounds, if as much. To look at him at the case, a novice would be apt to put him down as a slow compositor. But Bonner was methodical, never made a false motion, only moved his right arm; but every time he touched a type it went right to the spot in the stick with hardly a click. He soon gained a reputation as a fast compositor, and frequent races took place between him and the other comps. Almost invariably Bonner came out ahead. The results of these contests were published frequently in the *Republican* and other newspapers, and there was considerable excitement among the craft in regard to them. There were several typos who would exceed 2,000 ems in an hour for an hour or two at a time, but when the contests exceeded five or six hours Bonner invariably came out ahead. Finally, there was a small wager that no man could set 24,000 ems, solid matter, in twenty-four consecutive hours. Bonner accomplished the feat in something over twenty hours, and stopped. Then a wager of ten dollars was raised, or rather a purse (for Bonner would not bet) that he could not set at the same average rate for the whole twenty-four hours. The number of ems fixed was 33,000. The type was solid minion, reprint copy, twenty-five ems wide, all breaks to be omitted. The proof was to be read by copy, and the whole finished within the twenty-four hours. Work commenced at 12 o'clock, noon, and continued until the next noon. Lunches, in the shape of sandwiches, were placed within reach of Bonner, and he occasionally took a bite and a drink of coffee. Bonner was a very clean com-

positor, and did not average more than two typographical errors on a galley. When the City Hall bell struck 12 the following day, Bonner threw down his stick, emptied his last lines, and the type measured—it having been agreed that there should be no measurement while he was at work, thus avoiding excitement. It was found that he had set up 32,997 ems, lacking just three ems of the amount set for his task. By universal consent, the judges permitted him to receive the ten dollars. Several attempts were made in other offices to equal the task but I never heard of it being equaled—especially in those days. As I have not kept track of similar contests in late years, perhaps it may have been, though I doubt it. Bonner's methodical ways, nerve, power of endurance, strictly temperate habits and good, natural constitution, undoubtedly enabled him to win such contests on long time.

Truly yours, JOHN F. BABCOCK.

From 1846 to 1869 there were many fast compositors working at the business who undoubtedly were able to make big records; but, notwithstanding a careful and diligent search of the files of the several trade papers, we find no mention made of any race or match against time between those periods. If any such occurred, they were not reported in the craft journals

In 1869, Charles McDowell, foreman of the Portsmouth (Md.) *Tribune*, set 8,240 ems in four hours—2,060 ems per hour. Size of type, measure and conditions not stated.

In 1870, George Arensberg set 2,064 ems in one hour, eclipsing all previous public efforts. The match was brought about in this wise: E. A. Donaldson, the present day foreman of the New York *Times* office, offered to wager $50 that George Arensberg could not set four sticks of the minion then used on the *Times* in one hour. George promptly covered the money, and on February 19, 1870, in the office of the New York *Times*, he accomplished the feat and two lines more. The type was solid minion, measuring 17 ems to the lower-case alphabet; the measure was $23\frac{3}{8}$ ems to the line and was counted as 24 ems, according to the Union scale; each stick contained twenty full lines and one line with but two words in it, the rest of the line being quads; there were no restrictions in regard to spacing; he did not empty his own sticks, and the last line was counted as a full line, though but half full. Result: eighty-six lines, 24 ems to line=2,064 ems. [There having been much controversy concerning the conditions of this race, we deem it necessary to say that the above statement is accurate and was furnished us by the interested parties themselves, viz.: Mr. Arensberg and Mr. Donaldson.]

In March, 1870, George Arensberg, in the office of the New York *Sun*, set, for a wager, 1,800 ems of lean, solid minion in 59m. 30s. Standard of type, just the scale; measure, 24 ems wide.

On March 27, 1870, at the office of the *Printers' Circular*, Philadelphia, at the request of Mr. R. S. Meniman, for a purse, George Arensberg set 1,764 ems in one hour. Type, nonpareil, 15 ems to lower-case alphabet; measure, 36 ems wide; no conditions as to spacing; did not empty his own sticks; the matter contained five break lines (equaling two full lines of quads). Result: forty-nine lines, 36 ems to line=1,764.

In January, 1871, Mr. R. S. Meniman arranged an international typesetting match, for which he offered as prizes, a solid silver stick to the winner, a silver medal with the bust of Franklin on one side to the second, and a bronze medal of similar design to the third. The rules to govern the match were as follows: The contest to take place May 10, 1871, and to be under the direction of the Presidents of the several Unions; type to be

nonpareil, not to exceed 16 ems to the lower-case alphabet; measure to be 27 ems wide, and all to set from the same copy (to be furnished by Mr. Meniman); proofs to be forwarded to Mr. Meniman with an alphabet of the type set, and all the proofs to be referred to a committee of the International Union, who should decide as to merits of the several performances and as to the winners. On May 10 the contest took place, for which there were eleven entries. The copy was a portion of an article on the "American Encyclopædia of Printing." The International Union, which that year met at Baltimore in June, appointed a special committee, consisting of C. Halloran, F. K. Tracy, J. D. Lewis, H. H. Burke and H. P. Callow, to whom were referred the proofs of the work performed by the eleven contestants. The committee reported to the International Union as follows: "We find that George Arensberg, of Philadelphia, composed in one hour 1,822 ems of solid nonpareil, 27 ems measure, 16 ems to lower-case alphabet; W. A. Edwards, of Norfolk, Va., set 1,620 ems (15⅓ ems to alphabet); James M. Butler, of Little Rock, Ark., set 1,688 ems (16½ ems to alphabet), and Richard A. McLean, of Philadelphia, set 1,657 ems (16 ems to alphabet). By equalizing the amounts set by Mr. Edwards and Mr. Butler to conform to the standard of 16 ems, we find that Mr. Edwards' work amounts to 1,692 ems, and Mr. Butler's to 1,642. Although Mr. McLean's work still exceeds Mr. Butler's by 15 ems we are convinced, after a comparison of proofs, that the difference in cleanliness of composition in favor of Mr. Butler more than counterbalances the excess of type set by Mr. McLean. We, therefore, decide that George Arensberg is entitled to the first prize, W. A. Edwards to the second, and James M. Butler to the third. Richard A. McLean ranks as fourth."

The entries, order of awards and amounts set, are as follows:

1.	Geo. Arensberg, Philadelphia, Pa.	1,822
2.	W. A. Edwards, Norfolk, Va.	1,692
3.	Jas. M. Butler, Little Rock, Ark.	*1,642
4.	Richard A. McLean, Philadelphia, Pa.	*1,657
5.	Wm. D. Dobelblower, Lafayette, Ind.	1,573
6.	Michael Corcoran, Montreal, Canada.	1,539
7.	Jas. Harper, Montreal, Canada.	1,513
8.	Wm. S. Humphreys, Montreal, Canada.	1,397
9.	T. Ryan, Cincinnati, Ohio.	1,342
10.	D. T. Dailey, Scranton, Pa.	1,341
11.	W. H. Manny, Scranton, Pa.	1,323

October 13, 1871, in Bellefontaine, O., W. A. Campbell, J. Q. A. Campbell and C. D. Campbell (three brothers) set, of lean, solid bourgeois, measure 18¾ ems to the line, ordinary newspaper spacing, each 2,000 ems in the following times respectively: W. A., 1 hour, 16 minutes and 58 seconds; J. Q. A., 1 hour and 17 minutes, and C. D., 1 hour and 18 minutes.

December 5, 1874, a tournament was held in the Washington *Republican* office. The contestants were divided into three classes: The first class set solid nonpareil for 3 hours; the second class set the same type for 1½ hours, and the third class set long primer for 1½ hours. Fatness of type and conditions governing the contest not stated. Prizes: First class—first prize, gold stick; second, silver stick; third, Harpel's "Typograph." Second class—first prize, silver stick; second, German silver stick; third,

* The cleaner proof of Mr. Butler allowed to overbalance excess of type set by Mr. McLean.

"Encyclopædia of Printing." Third Class—First prize, gold breastpin stick; second, "American Encyclopædia of Printing"; third, thermometer. Referee, Mr. R. S. Meniman, publisher *Printers' Circular*, Philadelphia. Following is the list of entries for the several classes:

First Class—S. N. Benerman, F. C. O'Neill, W. W. McCollum, J. M. Richards, H. M. Foltz, Richard A. McLean, Robert S. Bayne and J. E. Wolf.

Second Class—Frank A. McGill, W. H. Whitcomb, W. S. Baker, H. W. Hartman, J. O'Brien, Wm. Dunn, G. W. Scriver, W. W. Maloney and H. A. Foresman.

Third Class—G. J. S. Hunnicutt, H. C. Tarleton, George Parklin, J. R. McBride and W. A. Wilson.

The result in the several classes was as follows:

FIRST CLASS—3 HOURS—SOLID NONPAREIL.

Spencer N. Benerman	5,070
Richard A. McLean	4,998
*W. W. McCollum	4,725

SECOND CLASS—1½ HOURS—SOLID NONPAREIL.

Wm. W. Maloney	2,278
Frank A. McGill	2,251
H. W. Hartman	2,187

THIRD CLASS—1½ HOURS—SOLID LONG PRIMER.

J. R. McBride	2,128
G. J. S. Hunnicutt	2,037
H. C. Tarleton	1,988

In August, 1877, a contest took place in Montreal. Type, nonpareil, 15½ ems to lower-case alphabet; time, 1 hour. Prizes—first, silver medal and $5; second, inkstand and $4; third, composing stick and $3. Referee, Mr. F. B. Egan, President Typographical Union. Contestants emptied their own sticks; proofs were read and corrected, the condition being that when a contestant finished correcting he should go on setting until all had finished, and the extra amount set to count as a part of the matter set. Total actual setting time of first two contestants, 1 hour, 7½ minutes. Result:

William C. Barnes (3 errors)	2,018⅛
†John Wardley (4 errors)	1,951⅛
Isaac Glennon	1,820⅜
Alphonse Barrette	1,749
Wm. S. Humphreys	1,614⅛
D. F. Patten	1,562⅛

*Mr. McCollum's name received special mention because of the superior excellence of his proof.

†In justice to Mr. Wardley, it is proper to state that he severely injured his thumb just before the race, or the result would probably have been different.

THE "ENQUIRER" CHALLENGE.

In December, 1877, the Cincinnati *Enquirer* threw down the gauntlet to any number of compositors, from one to ten, for $500 to $1,000 a side. The only stipulation was that all should come from one office. Mr. John Bell was foreman of the composing-room at the time, and, while he never selected the ten men (because the challenge was not accepted), he had the following "fast uns" to choose from: George Arensberg, Joseph Hudson, Charles Church, George Stinchcomb, Edwin R. Watson, Joseph C. Barrett, George H. Logan, Robert M. Rose, Charles Wright, Al. Ulrich, J. C. Vandervoort, Samuel Tearne, James Kemble, Fred. Good, Byron Bailey, Wm. Ahrens, R. W. Lillard, M. I. Aitken, Frank Dremer, Charles Beers, and others.

RECORDS—*(Continued.)*

LEVY–McCAW RACE.

In 1881, at Winnipeg, Manitoba, Thomas C. Levy, then of that city, and James McCaw, of the Toronto *Globe*, set a match for $1,000 and the championship of Canada. Type, nonpareil, 17⅔ ems to the lower-case alphabet; measure, 30 ems wide; time, 7 hours; no conditions as to spacing, etc. Won by Mr. Levy, who set 13,700, against Mr. McCaw's 12,240 ems.

BERLIN (GERMANY) CONTEST.

In January, 1884, a typesetting contest was held in the Court Printing Office of Herr Büxenstein, Berlin, Germany. Type, solid bourgeois, 62 letters to the line. The race was won by Herr Kramer, who set 9,415 letters in three hours. When it is considered that the German case is much wider and longer than the English case, and that consequently there is more ground to be covered, Herr Kramer's performance seems truly wonderful.

McCANN–SOMERS MATCH.

In June, 1885, during the session of the International Union in New York City, a match was arranged between Joseph McCann, of the New York *Herald*, and Ira Somers, of the New York *World*, for $250 a side. The race came off June 4, in the office of the New York *Star*. Type, solid minion, 15⅞ ems to lower-case alphabet; measure, 25 ems to the line; nothing more than one-em space to occur between words in composition, nor more than 1½ ems in correcting; each contestant to have a deputy stick-emptier; each to correct his proof after composition, and lose one line for each minute so consumed; three-quarter cases; time, 3 hours.

Referee, Wm. H. Foster, ex-President of Philadelphia Union. The signal was given at 2.05 P. M., and the contestants lifted their first letter at the same instant. McCann gained a trifle on the very first line, and was given a boost through Somers setting wrong words for his second line and distributing more than half of it. At the end of the first stickful McCann had a lead of two lines and a half, having set 500 ems in 14 minutes and 30 seconds, to Somers' 16 minutes. They worked with equal speed in putting together the next stickful, each occupying 14 minutes and 30 seconds, but on the third stickful Somers dropped another line behind, and, failing to keep pace with the increased speed shown by his opponent, he was left 123 ems in the lurch at the end of the first hour. He did better during the second stage of the journey, but yet he was beaten 85 ems on the second hour, which left him 208 in the rear. During the closing hour Somers improved slightly, but McCann continued to show superiority in both speed and certainty in handling, increasing his advantage by 67 ems, being a total excess of 275. The score of both by hours was as follows:

	McCANN'S EMS.	SOMERS' EMS.
First hour	2,123	2,000
Second hour	2,110	2,025
Third hour	2,117	2,050
Total	6,350	6,075

McCann set 1,000 ems in 29 minutes to Somers' 30 minutes and 30 seconds; 2,000 ems in 57 minutes, to Somers' 60 minutes; 3,000 ems in 1 hour, 25 minutes, to Somers' 1 hour, 30 minutes, 20 seconds; 4,000 ems in 1 hour, 53 minutes, 20 seconds, to Somers' 1 hour, 59 minutes, 20 seconds; 5,000 ems in 2 hours, 22 minutes, 20 seconds, to Somers' 2 hours, 29 minutes, 10 seconds; and 6,000 ems in 2 hours, 50 minutes, 20 seconds, to Somers' 2 hours, 58 minutes, 30 seconds. McCann finished his correction in 12 minutes, 30 seconds, to Somers' 11 minutes, 30 seconds. As McCann took one minute more to correct his proofs, owing to an "out," which compelled him to overrun and make a line, one extra line was deducted off his matter, which still left him ten lines ahead, or 250 ems. Deducting one line for each minute required for correction leaves the record for composition and correction in three hours: McCann, 6,037½ ems; Somers, 5,787½ ems.

BARNES' BEST RECORD.

September 10, 1885, in the office of the New York *Times*, for a money wager, William C. Barnes set 2,000 ems in 55 minutes, 30 seconds, and 2,160 ems in 1 hour. Type, nonpareil, 16 ems to lower-case alphabet; measure, 29 ems wide; he did not empty his own sticks; spacing limited to 3-em spaces in composition and nothing thicker than en quads in spacing out the line; second-sized cases.

McCANN–BARNES MATCH.

In view of this performance, Mr. Barnes, on September 26, 1885, issued a challenge to Mr. McCann as follows:

"I hereby challenge Mr. Joseph McCann, of the New York *Herald* office, to a typesetting race of three to five hours' duration, for $500 a side; both contestants to use full-sized cases and empty their own sticks; no en quad to be used in a line for "spacing out," unless necessary to fill the line tight; no syllable to be turned over which may be got in without thin-spacing; one line deducted for each minute con-

sumed in correcting; 1½ ems allowed in "making even" to get in an out or adjust space occasioned by a doublet."

On October 29, 1885, Mr. McCann accepted the challenge; articles of agreement were signed and the match was arranged for December 15. Type, solid minion, 15⅞ ems to lower-case alphabet; measure, 25 ems to the line; time, 4 hours; conditions, National Rules (though not at that time known by that name, not having been formally adopted by any body of men); place, Frank Tousey's office, North Moore Street, New York City; referee, Mr. William White, of the *Financial and Commercial Chronicle;* stake, $500 a side; stakeholder, Mr. Wm. H. Bodwell, of the *Sun.* Mr. McCann won the match, setting more type and a cleaner proof than Mr. Barnes. McCann set 8,062½ ems, and Barnes 7,951. The following from the *Herald* of December 16, 1885, gives a full account of the race:

"Barnes finished his first line ahead of McCann, which was his fastest. Neither appeared nervous, Barnes' motion being very free and graceful, McCann's somewhat stiff and constrained, but as accurate as clockwork. Barnes got ahead on the first and second lines, but McCann nearly caught up on the third, and on the fourth both rules dropped at the same time, and for five or six minutes they were heard clicking together at the end of each line. Intense excitement prevailed when it was seen how closely matched the contestants were.

"But some surprise was created when Barnes dropped his stick and emptied it nearly a minute ahead of McCann. Some one said that Barnes was emptying nineteen-line sticks instead of twenty, as McCann started to do.

SCORE PER HOUR.

"According to the referee's time the sticks (Barnes' 19 lines, and McCann's, 20 lines, of 25 ems each) were emptied as follows:

MCCANN.

1st Hour.	*2nd Hour.*	*3rd Hour.*	*4th Hour.*
M. S.	M. S.	M. S.	M. S.
16.00	15.00	14.30	15.00
15.30	15.00	14.30	15.00
15.00	15.00	14.30	15.00
14.30	14.30	15.00	14.40

BARNES.

1st Hour.	*2nd Hour.*	*3rd Hour.*	*4th Hour.*
M. S.	M. S.	M. S.	M. S.
15.30	15.00	14.00	15.00
14.00	15.30	14.00	14.00
14.30	15.00	14.00	14.00
14.30	15.00	15.00	15.00

"When time was called to stop all was still uncertainty. McCann had two lines and a half in his seventeenth stick, or on his ninth thousand, and Barnes thirteen lines in his seventeenth stick. As the latter then acknowledged having emptied fifteen sticks of nineteen lines and one of twenty, while all of McCann's contained twenty lines, Barnes was consequently four lines and a half behind. McCann had set 8,062½ ems and Barnes, 7,951.

"McCann set 2,000 ems and over every hour, as follows: First hour, 2,000; second hour, 2,012; third hour, 2,017; fourth hour, 2,033½. His average for the four hours was about 2,015¾ per hour, and Barnes', 1,987¼.

"The proofs had to be read twice—once by each contestant's own reader and a second time by his opponent's reader. McCann's proofs were the cleaner. He corrected his first proofs in twelve minutes. Barnes had several "outs," and was twenty-three minutes correcting his first proofs. It was then agreed that no revise was necessary. As Barnes had counted on beating McCann on the proofs, he here announced that he gave up the contest, shook hands with McCann, acknowledged his superiority, and the referee gave the match to McCann.

"McCann thus won by 111½ ems on the composition and by 275 ems (eleven lines) on the ection. Total, 386½ ems. McCann was then presented with a gold badge by b nds and "made even" on a speech.

"N e two contestants so closely matched—a difference of only four and

a half lines in four hours—a little over a line per hour. It was so close all through, and the audience was so uncertain as to who was ahead, owing to Barnes' short sticks, that few bets were made after the start. Some of $25 and $50 even had been made just previously, although the odds were in favor of McCann a few days ago. Barnes' backers knew what he could do and had McCann's previous record to be guided by, and thus had the advantage over McCann's friends who knew nothing of his opponent's abilities.

"It was only when the referee had counted the lines that the result was positively ascertained."

It will be found by computation that in this race the difference in speed was less than an en quad per minute.

THE CHICAGO TOURNAMENT.

The first National Typesetting Tournament began at Kohl & Middleton's Museum, Chicago, January 11, 1886, and ended January 17. Entries: Thomas C. Levy, Joseph M. Hudson, Wm. J. Creevy, Clinton W. De Jarnatt (the "Kid"), and Leo Monheimer, of Chicago; Joseph McCann and Wm. C. Barnes, of New York. Time, 7 days, 3 hours per day (1½ hours each afternoon and evening); type, solid minion, 15⅞ ems to lower-case alphabet; measure, 25 ems to the line; National Rules. Prizes—first, diamond medal; second, silver water service; third, silver hunting cup. Referee, Mr. A. H. McLaughlin, President of Chicago Typographical Union. Proof-reader, Fred. G. Rae. First prize won by William C. Barnes; second by Joseph McCann, and third by Thomas C. Levy. During the Chicago Tournament William C. Barnes set 966 ems in 30 minutes, and 1,822 ems in 1 hour, with his lower-case reversed, and 1,005 ems in 1 hour, blindfolded. Joseph W. McCann, in an endeavor to beat Arensberg's time, set in 1 hour during this tournament, 2,150 ems, working under the same conditions as Arensberg did. W. C. Barnes set 2,100 ems, same conditions. The table which appears on the next page was taken from the *Inland Printer* for March, 1886, and shows the gross amount set by each contestant during each heat, time consumed in correcting and net ems for each hour and a half, and total score for the week.

Official Tabulated Statement of the result of the First National Typesetting Tournament, Commenced at Chicago, Monday, January 11, and Ended Sunday, January 17, 1886, by Innings (of one hour and a half each) with number of minutes consumed in correcting:

NAMES.	MONDAY.			TUESDAY.			WEDNESDAY.			THURSDAY.		
	Gross ems.	Time correcting.	Net ems.	Gross ems.	Time correcting.	Net ems.	Gross ems.	Time correcting.	Net ems.	Gross ems.	Time correcting.	Net ems.
W. C. Barnes	2,860½	1½	2,823	2,884½	5	2,759½	3,000	6½	2,837½	2,901	1½	2,863½
Jos. W. McCann	2,915	8½	2,702½	2,880½	3	2,805½	3,011	2¼	2,954¾	2,976	4	2,876
Thos. C. Levy	2,867½	10½	2,605	2,910	9	2,685	2,995	6¼	2,838¾	2,953½	4	2,853½
Jos. M. Hudson	2,946½	16	2,546½	2,940½	4½	2,828	2,955½	6½	2,793	2,957¾	8½	2,745
Leo Monheimer	2,585	14½	2,222½	2,525	8½	2,312½	2,615	6¾	2,446¼	9,581	6¾	2,412¼
Will J. Creevy	2,609	6½	2,446½	2,606	5½	2,468½	2,547	6¾	2,378¾	2,658	8	2,458
C. W. De Jarnatt	2,375	3	2,300	2,450	.....	2,450	2,427½	2¾	2,371¼	2,450	4	2,350
	2,525	1½	2,487½	2,523½	3½	2,436	2,507	1	2,482	2,509	3½	2,421¼
	2,389	2½	2,326½	2,506	6¾	2,337¼	2,540½	6¼	2,384¾	2,561	2¾	2,492½
	2,433	3	2,358	2,504	4	2,400	2,572	2	2,522	2,600	13½	2,262½
	2,350	3	2,275	2,500	9	2,279	2,525	1¾	2,481½	2,539	8¼	2,332¾
	2,480½	5	2,355½	2,500	1	2,475	2,500	1½	2,468¾	2,500	5	2,375
	2,490	10	2,240	2,493	4	2,393	2,376½	5½	2,239	2,389½	8	2,189½
	2,425	10	2,175	2,400	7	2,225	2,425½	6½	2,269¼	2,363	7	2,188

NAMES.	FRIDAY.			SATURDAY.			SUNDAY.			TOTALS.		
	Gross ems.	Time correcting.	Net ems.	Gross ems.	Time correcting.	Net ems.	Gross ems.	Time correcting.	Net ems.	Gross ems.	Time correcting.	Net ems.
W. C. Barnes	2,928½	3	2,853½	2,968½	3½	2,881	2,895	6½	2,732½			
Jos. W. McCann	2,959	4½	2,846½	2,874	2¾	2,817¾	2,622	6	2,472	40,675½	58	39,225½
Thos. C. Levy	3,000	6¾	2,831¼	3,010	6	2,860	2 875	3¾	2,781¼			
Jos. M. Hudson	3,028	3¾	2,934¼	3,068½	13¼	2,737¼	1,841	3	*1,766	40,348½	101¼	37,804¼
Leo Monheimer	2,571½	8¾	2,352¾	2,697½	6½	2,535	2,675	5¼	2,543¾			
Will J. Creevy	2,634½	7	2,459½	2,735½	6¼	2,579¼	2,600	8	2,400	36,640	105	34,015
C. W. De Jarnatt	2,458	2½	2,395½	2,496½	6	2,346½	2,568	3	2,493			
	2,51.	1¾	2,467¼	2,444	2¾	2,387¾	2,600	3	2,525	34,844½	37¼	33,913¼
	2,521	4	2,421	2,407	4	2,307	2,548	6½	2,385½			
	2,535½	4	2,435½	2,511	10¼	2,248½	2,541	3	2,466	35,165	72¾	33,346¼
	2,427	8½	2,214½	2,425	3½	2,337½	2,447	2	2,397			
	2,473	2¾	2,404¼	2,430½	2	2,380½	2,522½	1	2,497½	34,623½	54	33,273½
	2,428	5½	2,290½	2,439	11	2,164	2,447½	9½	2,210			
	2,386	9	2,161	2,458½	6	2,308½	2,435	5	2,310	33,956¼	103¾	31,362¾

* In this heat McCann worked one-half hour less time than the other contestants.

THE MEMPHIS CONTEST.

February 15 to 20, 1886, inclusive, a contest took place at Memphis, Tenn. The entries were as follows: Wm. H. Van Bibber, *Sunday Times;* Wm. M. Holmes, *Appeal;* T. G. Mayfield, *Avalanche;* T. J. Sheats, *Ledger;* T. R. Drake, *Record.* Prizes—Diamond medal to first, and gold medal to second. Type, old-style brevier, 12⅔ ems to lower-case alphabet, or ⅓ em below the standard. Referees and judges, Messrs. Hanson, Friedlander and Humphrey. Time, 18 hours, divided into heats of 1½ hours each afternoon and evening for six days. The corrected score by days of 3 hours per day and for the week was as follows:

DAYS.	VAN BIBBER.	MAYFIELD	DRAKE.	HOLMES.	SHEATS.
First day	4,512	4,135	4,235	3,860	3,875
Second day	4,890	4,536	4,612	4,137	4,225
Third day	4,782	4,504	4,508	4,414	4,120
Fourth day	4,800	4,505½	4,542½	4,416	3,874½
Fifth day	4,935	4,556½	4,522	4,347	4,146½
Sixth day	4,788	4,601	4,367	4,287	4,200
Total	28,707	26,838	26,787	25,461	24,441

THE BOSTON CONTEST.

February 15, 1886, at Austin & Stone's Museum, Boston, a match was participated in by four contestants, for the championship of New England and prizes of gold and silver watches. Time, 6 days, each day divided into periods of 7 heats of 20 minutes; total time, 14 hours; type, solid minion "very lean" (just how lean is not stated by our Boston correspondent); full-size cases; National Rules. Contestants: Melvin R. Crosby, George Graham, Richard Cross and John A. Grant. The result for each day and for the week is shown in the following table:

DAYS.	GRAHAM.	CROSBY.	CROSS.	GRANT.
Monday	3,425	3,500	3,325	3,225
Tuesday	3,700	3,600	3,725	3,600
Wednesday	4,125	4,125	4,125	3,725
Thursday	4,100	4,100	4,075	3,875
Friday	4,300	4,125	3,950	4,025
Saturday	4,350	4,350	4,225	4,100
Total	24,000	23,800	23,425	22,550

LADY TYPESETTERS.

February 22, 1886, a contest took place between female compositors at the same place, in which Miss Kenny is credited with having set, in the same time occupied by the male contestants, 24,950 ems; Miss White, 24,650 ems, and Miss Francis, 24,475 ems; but, as much latitude was allowed the ladies in the matter of time and proofs, their scores cannot take rank as genuine records.

THE ROCHESTER CONTEST.

March 1, 1886, a contest was held in Odd Fellows' Hall, Rochester, under the auspices of Printers' Assembly 1735, K. of L. Prizes—first, gold medal; second, silver-plated stick and rule; third, nickel-plated stick and rule. Type, solid brevier (standard not stated); measure, 25 ems wide; time, 1 hour; National Rules, excepting that each contestant was allowed a deputy stick-emptier. Result:

	UNCORRECTED.	CORRECTED.
Joseph Farquhar	2,025	1,959
Charles L. Monroe	1,845	1,808
Frederic G Beach	1,850	1,792
Alfred Adrian	1,525	1,475
Joseph Norton	1,375	1,230

THE PHILADELPHIA TOURNAMENT.

The second National Typesetting Tournament began at Philadelphia, March 15, 1886, and ended March 27, at C. A. Bradenburgh's Ninth and Arch Street Museum. Time, 11 days, 3 hours per day (1½ hours each afternoon and evening); total time, 33 hours. Type, nonpareil, 17⅜ ems to lower-case alphabet; full-size cases; National Rules. Referee, Wm. H. Foster (died on Wednesday, July 28, 1886); proofreader, Alex. Shane. Prizes—first, diamond medal; second, gold medal; third, silver medal; fourth, gold medal (for the local championship); fifth, bronze medal. The competitors came in in the following order: Alex. Duguid, first; Joseph W. McCann, second; William C. Barnes, third; Thomas C. Levy, fourth; Peter Thienes, fifth; J. A. Washington, sixth; James J. Nolan, seventh, and W. H. Crane, eighth.

The changes in the relative positions of the leading contestants in this match may be traced in the following from the *Printer's Circular:*

"At the beginning of the contest, Joseph McCann, of the New York *Herald*, the ex-champion, gave indications of winning the first prize; but after the first day, W. C. Barnes, of the New York *World*, the champion, led for the two succeeding days. He then gradually dropped to third place, which he held to the close. McCann then went up to the head of the list, which position he held up to the last day, when Duguid put on a little extra steam when he began work in the afternoon, his score then reaching for the hour and a half, 3,388 ems, which he exceeded, however, in the evening, attaining a marking of 3,416 ems, beating his previous record, and any heretofore attained anywhere. His total day's work of three hours was 6,804 gross ems, reduced to 6,635¼ net ems by 6¾ minutes required for correcting."

The following from the *Circular* for March, 1886, explains itself:

"On the closing day of the tournament, Barnes set, in the afternoon, 2,744 gross ems, with reversed cases, in one hour and a half, thirty seconds being occupied in correction. In the evening of the same day he set 1,635 gross ems in one hour and a half, while blindfolded, the copy being dictated by Thienes. The matter set up in these two remarkable feats constitutes a portion of the total amount set in the tournament. The proof of the blindfolded work contained but six errors and was not corrected, the matter being made up and printed for distribution just as set."

The following is the official score by heats and for the entire time of contest:

Official Tabulated Statement, by Innings (of one hour and a half each) and by Days, of the Second National Typesetting Tournament, at C. A. Bradenburgh's Ninth and Arch Street Museum, Philadelphia, Commenced March 15, Ended March 27, 1886. Nonpareil Type:

NAMES.	FIRST DAY.			SECOND DAY.			THIRD DAY.			FOURTH DAY.			FIFTH DAY.			SIXTH DAY.		
	Gross ems.	Time correcting.—Minutes.	Net ems.	Gross ems.	Time correcting.—Minutes.	Net ems.	Gross ems.	Time correcting.—Minutes.	Net ems.	Gross ems.	Time correcting.—Minutes.	Net ems.	Gross ems.	Time correcting.—Minutes.	Net ems.	Gross ems.	Time correcting.—Minutes.	Net ems.
Alex. Duguid	3,034	3½	2,946½	3,101	3	3,026	3,136	4	3,036	3,212	4¼	3,105¾	3,213	2½	3,150½	3,197	2	3,147
	3,075	4¼	2,968¾	3,163	4¼	3,056¾	3,172	2	3,122	3,267	3	3,192	3,251	2¼	3,194¾	3,259	6½	3,096½
J. W. McCann	3,139	4¼	3,032¾	3,163	6¼	3,006¾	3,141	5¼	3,009¾	3,245	5¾	3,101¼	3,264	3½	3,176½	3,244	3	3,169
	3,164	5	3,039	3,235	6¾	3,066¼	3,261	4¾	3,142¼	3,289	4	3,189	3,134	6¾	2,965¼	3,236	3½	3,148½
W. C. Barnes	3,024	3¾	2,930¼	3,203	1¾	3,159¼	3,088	3½	3,000½	3,136	2½	3,073½	3 193	2¼	3,136¾	3,163	2	3,113
	2,959	2¼	2,902¾	3,217	2½	3,154½	3,220	2½	3,157½	3,131	2½	3,068½	3,106	¼	3,099¾	3,210	2½	3,147½
Thos. C. Levy	3,102	5	2,977	2,779	10¼	2,522¾	2,874	13¾	2,528¼	2,910	7¼	2,716¼	3,080	3¾	2,986¼	2,968	4¾	2,849¼
	3,003	5½	2,865½	2,725	9¾	2,481¼	2,848	6¼	2,691¾	2,979	5¾	2,835¼	2,961	7¼	2,779¾	2,925	7¾	2,731¼
Peter Thienes	2,512	3	2,437	2,605	1	2,580	2,567	1¼	2,535¾	2,768	¾	2 749¼	2,738	½	2,725½	2,856	1	2,841
	2,701	½	2,688½	2,693	1	2,668	2,734	.....	2,734	2,741	½	2,728½	2,728	2¼	2,671¾	2,912	2¾	2 843¼
J. A. Washington	2,321	3	2,246	2,446	5¾	2,302¼	2,486	3¼	2,409¾	2,519	4¾	2,400¼	2,500	3	2,425	2,466	3	2,391
	2,429	4¾	2,322¾	2,444	3¾	2,362¾	2,455	3	2,380	2,459	2	2,409	2,464	3½	2,379½	2,526	4½	2 413½
James J. Nolan	2,128	8¼	1,921¾	2,352	2¾	2,283¼	2,389	6¼	2,232¾	2,433	½	2,420½	2,464	4	2,364	2,474	1	2,449
	2,221	2	2,171	2,464	3½	2,376½	2,496	3¼	2,414¾	2,440	1¾	2,396¼	2,526	2	2,476	2,472	1½	2,434½
W. H. Crane	2,049	2¾	1,980¼	2,122	20	1,622	2,135	2	2,085	2,273	5¼	2,141¾	2,253	1¾	2,209¼	2,240	5	2,115
	1,896	10	1,646	2,128	2¾	2,059¼	2,235	3	2,160	2,228	2	2,178	2,268	5½	2,130½	2,358	6	2,208

Philadelphia Tournament—(Concluded).

NAMES.	SEVENTH DAY.			EIGHTH DAY.			NINTH DAY.			TENTH DAY.			ELEVENTH DAY.			GRAND TOTAL.		
	Gross ems.	Time correcting.—Minutes.	Net ems.	Gross ems.	Time correcting.—Minutes.	Net ems.	Gross ems.	Time correcting.—Minutes.	Net ems.	Gross ems.	Time correcting.—Minutes.	Net ems.	Gross ems.	Time correcting.—Minutes.	Net ems.	Gross ems.	Time correcting.—Minutes.	Net ems.
Alex. Duguid	3,141	4¾	3,022¼	3,274	3½	3,186½	3,296	2½	3,233¼	3,370	2½	3,307½	3,388	2¾	3,319¼			
	3,297	1¾	3,253¼	3,286	3	3,211	3,295	8¼	3,088¾	3,276	2¼	3,219¾	3,416	4	3,316	71,119	76¾	69,200¼
J. W. McCann	3,224	3½	3,136½	3,300	3½	3,212½	3,285	4	3,185	3,325	5¼	3,193¾	3,260	4¾	3,141¼			
	3,332	3	3,257	3,310	2½	3,247½	3,248	3	3,173	3,299	7¼	3,117¾	3,347	6	3,197	71,445	101¼	68,907½
W. C. Barnes	3,048	2¾	2,979¼	3,111	1½	3 073½	3,119	3¼	3,031½	3,077	1½	3,039½	2,744	½	2,731½			
	3,212	1½	3,174½	3,156	½	3,143½	3,008	1¼	2,976¾	3,023	1½	2,985½	1,635	.....	1,635	66,783	42¾	65,714¼
Thos. C. Levy	2,956	8¼	2,737¼	2 940	8	2,740	2,912	5¼	2,780¾	3,015	5¾	2,871¼	2,974	8	2,774			
	2,920	2¾	2,851¼	2,940	4	2,840	3,045	4¾	2,926¼	2,968	4½	2,849¾	3,119	4¼	3,012¾	64,943	145¾	61,299¼
Peter Thienes	2,748	½	2,735½	2,661	2¼	2,604¾	2,772	4¼	2,665¾	2,758	½	2,745½	2,856	½	2,843½			
	2,775	2½	2,712½	2,764	2	2,714	2,747	2¾	2,678¼	2,835	2¼	2,778¾	2,852	1	2,827	60,323	32	59,498
J. A. Washington	2,547	3¼	2,465¾	2,512	1¼	2,480¾	2,440	2¼	2,383¾	2,599	1½	2,561½	2,640	1¾	2,596¼			
	2,544	2½	2,491½	2,497	3	2,422	2,542	2	2,492	2,510	3¼	2,428¾	2,582	1½	2,544½	54,927	65½	53,289½
James J Nolan	2,462	1¼	2,449½	2,416	¼	2,403½	2,473	1¼	2,441¾	2,515	.....	2,515	2,446	½	2,433½			
	2,523	1	2,498	2,389	¼	2,373¼	2,576	¾	2,557¾	2,500	1	2,475	2,478	.....	2,478	53,638	42½	52,575¼
W. H. Crane	2,461	1½	2,423½	2,268	2¾	2,199¼	2,311	2	2,261	2,408	1¾	2,364¼	2,417	3	2,342			
	2,316	7	2,141	2,295	4¼	2,188¾	2,366	2¾	2,297¼	2,296	2¼	2,249¾	2,380	½	2,367½	49,803	94¼	47,434¼

WM. H. FOSTER

(Referee Philadelphia Tournament).

Died July 28, 1886.

THE PROVIDENCE CONTEST.

At Providence a race took place in which Messrs. Sorbie, Horan and Wrigley came in in the order named; but interested parties inform us the race was a hippodrome, and that it was not conducted according to any fair rules which should govern such a contest, and consequently their scores have properly no place in this book.

THE INDIANAPOLIS TOURNAMENT.

In April, 1886, a typesetting tournament was held in the New Iron Zoo, a theatre in the City of Indianapolis, Ind. The race was for the State championship and prizes of $50, $35, $25 and $10. To the kindness of Mr. Frank Long we are indebted for the following account of the race: There were six contestants, and they worked seventeen hours in all, one and a half in the afternoon and two hours in the evening. The National Rules governed the spacing, and 28 ems were deducted for every minute spent in correcting; type and standard not stated. Divine set 31,201 ems, an average of 1,835 per hour, but lost 2,700 in correcting, making 28,501 net amount. Perkins set 30,569 ems, an average of 1,798 per hour, and lost 936 in correcting, giving him a net score of 29,633, and winning the race. Score for seventeen hours' work:

CONTESTANTS.	GROSS.	EMS LOST CORRECTING.	NET.
Perkins	30,569	936	29,633
Divine	31,201	2,700	28,501
Sickles	29,259	895	28,364
Heerman	28,616	680	27,936
Oswald	28,609	1,042	27,567
Walls	28,986	1,850	27,136

THE PITTSBURG CONTEST.

March 22, 1886, a six-days' contest commenced in the city of Pittsburg, Pa., in the Chalet Museum. The race was close and exciting. There were six entries, all local competitors, as follows: Wm. C. Clarke, of the *Dispatch;* A. H. Bissell, of the *Dispatch;* Samuel Stern, of the *Penny Press;* T. H. Dolan, of the *Commercial Gazette;* John J. Jones, of the *Commercial Gazette,* and J. M. Dorsey, of the *Chronicle-Telegraph.* Type, minion, 15 ems to lower-case alphabet; measure, 22 ems to the line. Mr. Clarke won the match, setting 31,091 ems in eighteen hours, an average of 1,727 ems per hour, and lost 359 ems in correcting, leaving a total net score of 30,732 ems. His highest hour and a half's work was 2,687 ems. Mr. Bissell won second prize, his highest hour and a half's work being 2,624 ems. Mr. Stern came in third, his highest record being 2,606 ems. Mr. Geo. C. Dabney was the referee. The following complete and comprehensive table was compiled from the official record by Mr. Samuel Stern, and forwarded to us by Mr. George C. Jenks, the latter formerly a very rapid compositor:

Official Tabulated Statement, by Innings (of one hour and a half each) and by Days, of the Chalet Museum Contest, at Pittsburg, Pa., Commenced March 22, Ended March 29, 1886. Minion Type:

NAMES.	MONDAY.			TUESDAY.			WEDNESDAY.			THURSDAY.			FRIDAY.			SATURDAY.			GRAND TOTAL.		
	Gross ems.	Time correcting.—Minutes.	Net ems.	Gross ems.	Time correcting.—Minutes.	Net ems.	Gross ems.	Time correcting.—Minutes.	Net ems.	Gross ems.	Time correcting.—Minutes.	Net ems.	Gross ems.	Time correcting.—Minutes.	Net ems.	Gross ems.	Time correcting.—Minutes.	Net ems.	Gross ems.	Time correcting.—Minutes.	Net ems.
W. C. Clarke	2,524	1¾	2,487	2,592	1¼	2,565	2,602	½	2,591	2,553	1½	2,526	2,629	1¼	2,602	2,548	1	2,526			
	2,610	3	2,544	2,564	¾	2,548	2,625	2½	2,576	2,611	1½	2,578	2,687	1	2,665	2,546	1	2,524	31,091	16½	30,732
A. H. Bissell	2,542	7½	2,377	2,614	3	2,548	2,597	2	2,553	2,593	1	2,571	2,580	2	2,536	2,570	2¾	2,521			
	2,503	3	2,437	2,526	5	2,416	2,590	7	2,436	2,527	1¼	2,500	2,570	2½	2,515	2,624	3	2,558	30,836	39½	29,968
Samuel Stern	2,503	5	2,393	2,592	2¾	2,533	2,634	1¾	2,596	2,496	¾	2,480	2,540	½	2,529	2,603	4¾	2,499			
	2,530	6	2,398	2,490	3½	2,413	2,541	6½	2,398	2,590	2¾	2,530	2,570	2	2,526	2,606	3	2,540	30,695	39¼	29,835
T. H. Dolan	2,356	4	2,268	2,425	4¼	2,332	2,576	3	2,510	2,500	2¼	2,451	2,447	1½	2,414	2,453	¾	2,437			
	2,565	10½	2,334	2,465	1¾	2,428	2,530	2¾	2,470	2,560	4¾	2,467	2,473	1½	2,438	2,582	2	2,538	29,932	38½	29,105
John J. Jones	2,312	3	2,248	2,372	4½	2,273	2,398	2	2,354	2,458	2	2,414	2,441	½	2,430	2,493	½	2,482			
	2,380	5	2,279	2,389	1	2,367	2,458	3¼	2,387	2,470	1	2,448	2,484	4	2,396	2,538	1½	2,503	29,197	28¾	28,581
J. M. Dorsey	2,208	8	2,032	2,379	3	2,313	2,379	21	1,917	2,181	1½	2,148	2,254	½	2,243	2,398	1	2,376			
	2,277	3	2,211	2,283	4½	2,184	2,322	2¼	2,273	2,371	1½	2,338	2,339	4½	2,284	2,553	1	2,531	27,944	51¾	26,850

A YEAR'S WORK.

December 13, 1873, the following appeared in the Troy (N. Y.) *Daily Press:* "Fred. W. Schneider, a compositor employed on this paper, in the year ending to-day set and distributed, in 312 days, 10 hours per day, 3,234,203 ems, an average of 10,366 ems per day; highest day's work, 17,485; in 38 consecutive days he set an average of 12,000 ems per day, and for five weeks he averaged 70,000 ems per week. He had no department, and his work was straight matter from the hook."

FAST DISTRIBUTION.

The system of paying compositors for the number of ems set, without regard to distribution, has resulted in more attention being paid to setting type than to distributing it. The main idea in distribution is cleanliness, and some of the swiftest compositors are slow and painstaking in throwing in their type; but by giving thought and time to the subject, a compositor can learn to throw in very rapidly and also accurately. As type is thrown in during a time which is more or less the compositor's, a half hour a day saved in this work is just so much precious time gained. It is claimed by some that there is a knack in laying the type a certain way in distribution, which makes it easier to set. We are inclined to believe this is all imagination. In nine cases out of ten a compositor will set type of his own distribution better and faster than that of others. This is simply force of habit. As a rule, type thrown in loosely is easiest to set.

A very fast distributor is Mr. F. S. Moore, now editor of the Akron (Ohio) *Labor News*. He was born in London, Ont., in 1841. Removed to Kingston; and when fifteen years of age, began to learn the printing business on the Kingston *Commercial Advertiser*. He has worked in all the leading cities of Canada and many cities in this country. He has had several matches in distributing type. In 1868 in Cleveland, Ohio, he threw in against time 5,040 ems solid nonpareil, without a break-line, in 52½ minutes. In a local trial against four competitors he distributed 4,060 ems, minion, in 40 minutes. This is at the rate of 6,000 ems an hour, and is remarkably fast. The average compositor will throw in but little over 4,000 ems an hour, and very few reach 5,000. Mr. Moore thus describes his method of distribution: "When the line is about 13 or 14 picas long, I pick up half a line at a time. The type is taken off the handful with the middle finger, the third finger instantly adjusting it before the index finger touches it. Instead of the matter being held in a horizontal manner, it is slightly inclined and worked toward the end of the digits. Thus, by proper training, the sense of feeling becomes so acute that the spaces can be very accurately assorted, thereby saving time and, coupled with a quick eye and ordinary intelligence, results in a case being 'thrown in cleaner than by other methods.'"

Another very fast distributor is Mr. William Beatty, now foreman of the Toledo *Evening Bee*. He is a native of Montreal, but has been in this

country since 1868. He is also a very fast typesetter, and could set about 1,800 ems an hour. He can throw in nearly 6,000 an hour, and his average speed is 5,000. Mr. Beatty is very popular, and has been President of the City Council and a member of the State Legislature. He has represented Toledo Union in the International Union.

NATIONAL RULES.

FORMALLY ADOPTED BY THE CONTESTANTS IN THE PHILADELPHIA TOURNAMENT AS A STANDARD TO GOVERN TYPESETTING MATCHES.

1. Membership in the Typographical Union is necessary to qualify printers for the National Typesetting Contest.

2. The type used to be solid minion or nonpareil, without paragraphs, and the column width to be 25 ems of the minion, or 28 ems, if nonpareil.

3. The hours of contest for each contestant to be fixed by the referee.

4. The copy, cases, stands, gas-jets, type, etc., to be identical in character for each contestant, and the selection of the stands to be decided by lottery previous to the contest.

5. The proofreader to be appointed by the referee, and a revise taken to insure correction of all errors marked in first proof. Twenty-five ems shall be deducted from the total amount of work performed for every minute occupied in correcting proof, and corresponding fractions of a line for fractional parts of a minute.

6. The contestants are required to empty their sticks, and they shall receive no aid whatever from others. Contestants are at liberty to select sticks and composing-rules to suit themselves, but the sticks must be set and examined at the discretion of the referee.

7. All types, letters, spaces and quadrats must be kept in their recognized boxes, and the following stipulations strictly observed: Three-em spaces shall be used in composition, and in spacing out the lines nothing thicker than two three-em spaces shall occur, unless necessary to use thicker spaces to fill the line tight. No word or syllable of a word shall be turned over that can be got into a line without the use of thin spaces. A line may be thin-spaced to get in a word if the contestants so choose. Not more than one and a half ems shall be allowed in correcting.

8. Justification is expected to be performed in a workmanlike manner, and the referee shall carefully examine all work in this particular, and be required to deduct such amount from the total of a contestant as in his judgment may appear proper in case he finds this portion of the work slighted. If a line shall be a five-em space short, it shall be an error, and marked by the proofreader.

9. Either Webster or Worcester shall be authority on dividing words, but no word of four letters only shall be divided, nor shall a syllable of a single letter be permitted at either end of a line.

10. Each contestant shall distribute his own type.

11. Any contestant failing to respond to the referee when "time" is called, either to begin or end composition or correction, will be considered out of the race.

12. In case of questions arising not covered in the preceding, the decision of the referee or his representative shall be final, and from which there can be no appeal.

GEORGE ARENSBERG.

BIOGRAPHIES.

GEORGE ARENSBERG.

("The Velocipede.")

Mr. Arensberg may be called the "father of fast compositors," for, while perhaps not the first to pass the 2,000-an-hour limit, yet he was the first to acquire the right to a record in the *Clipper Almanac*, by virtue of having set for a money wager upwards of 2,000 ems in 60 minutes, and this record (2,064 ems) stood as the best for 15 years. Mr. Arensberg was born in Pittsburg, and in his early boyhood earned his living as a newsboy. Naturally quick-witted and intelligent, he attracted the attention of the printers working on the *Dispatch*, and was by them induced to learn the trade. He made such progress that at the age of fifteen he made application for membership in Pittsburg Union and was rejected on account of his youth. A year later he was admitted, and soon after began his travels. His first stopping-place was New Orleans, where the Union would not admit him, deeming him illegally a member by reason of his youthful appearance. Failing to obtain employment, he worked his passage to Memphis as a cabin boy, where he obtained employment on the *Bulletin*. He next turned up in Louisville, where he remained eighteen months; he was there associated with Vic. Loomis, Charley Church, Bill Mason, and other celebrated comps. From Louisville he returned to his native city and worked on the *Commercial* and afterward on *The Paper*, until the death of the latter. He then went to Washington and worked on the *Patriot* until its suspension, when he went to New York in 1869, where he obtained a situation on the *Times*. He had at this time secured a widespread notoriety for fast typesetting, and Mr. George Howe, at that time employed on the *Times*, soon after Arensberg's arrival, christened him "The Velocipede," and he was never afterward able to part company with the title. While employed on the *Times* he set the match against time which made him famous—2,064 ems in one hour.

From New York he went to Philadelphia, where, May 10, 1871, in the International Tournament, he won the solid silver stick offered by R. S. Meniman, setting in one hour 1,822 ems solid nonpareil, 16 ems to lowercase alphabet, 27 ems measure. From Philadelphia he returned to Pittsburg. He then visited Cleveland, Toledo and Cincinnati. In the latter place he held a weekly situation on the *Enquirer*, and was one of the *Enquirer's* "Big Ten" who challenged any number of printers from one to ten from any one office in the United States to a match at typesetting. From Cincinnati he went to Louisville and Chicago; thence to Cincinnati

again, and next to New York, where he worked on the *Times*, and resided till the time of his death, which occurred at Bellevue Hospital, New York City, on Wednesday, July 28, 1886.

Shortly before his demise, speaking of his approaching dissolution, he said: "Well, boys, I haven't long to stay in this world; but I tell you I've had a heap of fun, and I'm ready to go." His best public records are as follows: New York *Times* office, February 19, 1870, 2,064 ems, minion, 17 ems to lower-case alphabet, 23⅔ ems to line (allowed to count 24), break-line to each stick, not emptying sticks. New York *Sun* office, a few weeks later, 1,800 ems minion, very lean, in 59 minutes, 30 seconds. Philadelphia, March 27, 1870, in the office of the *Printers' Circular*, R. S. Meniman, publisher, time, 1 hour, type, nonpareil, 15 ems to lower-case alphabet, measure, 36 ems wide, five break-lines, equaling two full lines of blank, 49 lines×36 ems=1,764 ems. Philadelphia, May 10, 1871, he won the solid silver stick offered by R. S. Meniman in the International Contest, setting in one hour 1,822 ems of solid nonpareil, 16 ems to lower-case alphabet, 27 ems measure.

IRA SOMERS.

The subject of this sketch was born at Mt. Pleasant, Atlantic County, N. J., May 4, 1863. At the age of twelve he began to learn the printing trade in the office of the Atlantic *Review*, at Atlantic City, working by the thousand and attending school. When fourteen years old he began his regular apprenticeship, and since that time has steadily progressed. At nineteen years of age he went to Philadelphia, where his expertness in handling the leaden emblems at once brought him into prominence, and where he first attempted to set type against time. In a trial in that city on July 31, 1882, he succeeded in setting 2,019 ems of solid minion in one hour. Without paying any particular attention to speed, the next two years were spent much as the average printer's life is passed, roaming about the country. During the session of the International Union, in New York City, in 1885, he engaged, on June 4, in a race with Joseph McCann, of the New York *Herald*, in the office of the New York *Star*. The type was solid minion, 15⅞ ems to the lower-case alphabet, measure, 25 ems wide, time, three hours, helpers to empty sticks, three-quarter cases, no conditions of spacing save that one em should not be exceeded in composition nor one and one-half ems in correcting, each contestant to correct his own matter and lose a line for each minute so spent. In this contest Somers set 1,000 in 30½ minutes, 2,000 in 1 hour, 3,000 in 1 hour, 30 minutes, 20 seconds, 4,000 in 1 hour, 59 minutes, 20 seconds, 5,000 in 2 hours, 29 minutes, 10 seconds, 6,000 in 2 hours, 58 minutes, 30 seconds, and 6,075 in 3 hours. He occupied 11 minutes, 30 seconds in correction, and had a net score of 5,787½, against 6,037½ for McCann. Somers has a graceful, easy motion, but withal a very deceptive one. He does not appear to be setting type as fast as he really does.

JOSEPH WILLIAM McCANN.

Joseph William McCann was born on September 5, 1856, in the village of Williamstown, a few miles from the city of Dublin, Ireland. He started to learn the printing business on April 1, 1869, in Alexander Thom's government printing office in Dublin, where he served five of the seven years'

apprenticeship which all printers in England and Ireland are compelled to serve before they are considered competent workmen or eligible for membership in the typographical unions of those countries. He put in the remaining two years of his apprenticeship on the Dublin *Evening Mail;* and, after working in that city on the *Express*, *Saunder's Newsletter* and *Freeman's Journal*, he resigned his situation on the latter newspaper and emigrated to this country, arriving in New York in the month of June, 1881. After working in various book and newspaper offices in New York City he went to Boston, where he held cases on the *Globe*. He returned to New York in May, 1883, and went to work on the *Herald*, where he is at present employed. McCann's first public performance in typesetting was on March 17, 1884, when he attempted to beat Arensberg's record of 2,064 ems in 1 hour, which he failed to do, owing to the novelty of the situation and his extreme nervousness. He accomplished, however, what was then considered a phenomenal feat, by setting 2,060 ems in 60 minutes. The conditions of this match against time were: Three-fourths of a quad line to each stickful, spaced with en quads, and a person to empty his stick for him. He was then challenged by Ira Somers, of the New York *World*, to a match for three consecutive hours and $250 a side, which took place in the New York *Star* office on June 4, 1885. McCann defeated Somers by 11 lines, or 275 ems. On that occasion McCann set in 3 hours 6,350 ems, and Somers, 6,075 ems. McCann was next challenged by W. C. Barnes, also of the New York *World*. This match was for 4 hours, $500 a side; type, solid minion, without a break-line; full-size cases; nothing thicker than 3-em spaces to be used in spacing out, unless thicker required to space the lines tight; each man to empty his own sticks, and resulted in McCann winning with a total of 8,062½ ems, against 7,951 ems by his competitor, defeating Barnes by 4½ lines (111 ems). Shortly afterwards he took part in a tournament in Chicago, taking second place. In this tournament, owing to the noise and bustle, he averaged only 1,921⅓ ems per hour, while in his matches with Somers and Barnes, and in the tournament in Philadelphia he averaged respectively, 2,116⅔, 2,015⅝ and 2,091 ems per hour. His best work in Philadelphia was in the last trial, when he set 3,347 ems in one hour and a half, an average of 2,231⅓ ems per hour.

THE CHICAGO TOURNAMENT.

WILLIAM C. BARNES, the winner of this tournament, was born at London, Canada, March 24, 1844. He learned his trade on the Tilsonburg (Ont.) *Observer* and the Woodstock (Ont.) *Sentinel*. He has taken part in local trials of speed at Hartford, Conn., and Montreal, Canada, winning first prize in each contest. On September 10, 1885, in the office of the New York *Times*, for a money wager, he set 2,001 ems in 55 minutes, 30 seconds, and 2,160 ems in one hour (see *Clipper Almanac* for 1887). October 10, 1885, at the office of the New York *Star*, he set 6,025 ems in 3 hours for a wager of $10. September 26, 1885, he challenged Joseph McCann, of the New York *Herald*, to a four-hour race

IRA SOMERS.

for $500 a side; this match was decided December 15, 1885, and was won by McCann, who set 8,062½ to Barnes' 7,951; type, solid minion, 15⅞ ems to lower-case alphabet; measure, 25 ems; National Rules. January 11, 1886, the first National Typesetting Tournament began at Kohl & Middleton's Museum, Chicago. Entries: Joseph McCann, of New York; W. C. Barnes, of New York; Thomas C. Levy, William J. Creevy, Joseph Hudson, Clinton De Jarnatt and Leo Monheimer, of Chicago. Type, solid minion, 15⅞ ems to lower-case alphabet; measure, 25 ems wide; National Rules; time, 1½ hours each afternoon and evening for seven days: total time, 21 hours. In this contest Barnes' best gross time was 3,011 ems in 1½ hours; best time (after deduction for time consumed in correcting), 2,954¾ ems in 1½ hours. Total for 21 hours, gross, 40,675; time correcting, 58 minutes; total, net, 21 hours, 39,225½. In the Philadelphia contest, March 16 to 27, his best gross time for 1½ hours was 3,220 ems; best net time, 3,174½ ems; total for 33 hours, 66,783* ems; time correcting total amount, 42¾ minutes; total net amount, 65,714¼ ems. Barnes has made two records on work never before attempted by any other compositor. At Chicago, during the first National Tournament, in one hour he set 1,822 ems with the lower-case reversed; also, in one hour, 1,005 ems blindfolded, with but one error in spacing and one typographical error. At Philadelphia, during the second National Tournament, he set, in 1½ hours, 2,744 ems with the lower-case reversed, occupying but 30 seconds correcting the same; and, in 1½ hours, 1,635 ems, blindfolded, with but six errors. Barnes uses liquor only as a medicine, eats at regular intervals, sleeps exactly eight hours per day and works on a system; and to the regularity of his habits and his temperance he attributes the fact that at forty-three years of age he is possessed of more than ordinary powers of endurance, nerve and speed.

JOSEPH W. MCCANN [see pages 39–40].

THOMAS C. LEVY was born in St. John, New Brunswick. Learned the trade in Oshkosh, Wis., and afterward published a paper there. He has worked principally in Chicago and the Northwest, where he has had quite a reputation as a rapid compositor. His first match was in Winnipeg, Manitoba, in 1881, for the championship of Canada and a purse of $1,000, against James McCaw, of the Toronto *Globe*. Nonpareil type was used, 17⅔ ems to the alphabet, 30 ems wide, and they worked seven hours. Mr. Levy won by 1,460 ems, setting 13,700 ems. Mr. Levy afterward set, on a wager, in the Chicago *Inter-Ocean* office, 2,104 ems, minion, in an hour. In the contest in Chicago at Kohl & Middleton's Museum, in January, 1886, Mr. Levy won the third prize, a silver cup. He set, in 21 hours, in heats of 1½ hours each afternoon and evening for seven days, 36,540 ems, minion, the National Rules governing the work. In Philadelphia, at the Ninth and Arch Street Museum, Mr. Levy came in fourth, setting 64,943 ems, nonpareil, 17⅔ ems to alphabet, 28 ems wide, in 33 hours, National Rules. His best hour and a half's work was 3,119, an average of 2,079⅓ ems per hour.

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* The reversed case work (2,744 ems) and blindfold work (1,635 ems) constitutes a part of the total of 66,783 ems set by Barnes during this contest. The blindfold work was from the same copy set by the other contestants, and was dictated by Mr. Thienes.

JOSEPH M. HUDSON was born at Baltimore, Md., August , 1850. In 1861 he began to learn his trade in the office of the Baltimore *Clipper*, and finished the same on the Baltimore *Chronotype*. Worked subsequently in Philadelphia and on the *Delawareean*, Dover, Del., New York *Citizen*, and Boston *Post* and *Herald*; in 1876, went to Chicago, where he has since remained, and now holds cases on the *Evening Mail* of that city. His only race was the Chicago tournament, where his best time for 1 hour and 30 minutes was 2,600 ems gross, and 2,525 ems corrected; his total score for 21 hours was 34,844½ ems gross, and 33,913¼ net. Mr. Hudson's composition in this match was remarkable for its accuracy, he having the cleanest proof of all the contestants; on the afternoon of the second day he set 2,450 ems with but three typographical errors, and his entire 21 hours' work occupied but 37¼ minutes in correcting.

WILLIAM J. CREEVY was born in New Orleans in 1852. He has never worked east of Cincinnati. He is an ex-delegate to the International Union, and has held several important offices in local Unions. He has no public record outside of his engagement in the Chicago match, where his best time for 1 hour and 30 minutes was 2,539 ems gross, and 2,497½ ems net; total for 21 hours, 34,623½ gross, and 33,273½ ems net. Mr. Creevy's proof was also exceedingly clean, he having the second best proof in the tournament. and losing but 54 minutes in correcting his week's work. He is at present connected with the Chicago *Inter-Ocean*.

CLINTON W. DE JARNATT (commonly known as "Kid" De Jarnatt) is from Chattanooga, Tenn., and is but twenty-one years old. He learned his trade in Little Rock, Ark He has been in Chicago for the past four years, and has worked on nearly all the daily papers of that city. He has a private record of 2,103 ems in 1 hour. His only public record was made during the Chicago tournament, where his best score for 1 hour, 30 minutes, was 2,493 ems gross, and 2,393 ems net; total for 21 hours, 33,956½ ems gross, and 31,362¾ ems net. It is but fair to Mr. De Jarnatt to state that he was in ill health during the Chicago match, as his appearance indicated, and in consequence he was extremely nervous. He has a remarkably good motion, and gives promise of extraordinary rapidity.

LEO MONHEIMER is a native of Lancaster, Mo., is twenty-one years old, and has resided in Chicago for six years. He has never worked east of Cincinnati. In private he has frequently set over 2,000 ems per hour. His only public record is that made in the Chicago tournament, where in 1 hour, 30 minutes, he set 2,600 ems gross, and 2,522 ems net; total for 21 hours, 35,165 ems gross, and 33,346¼ ems net.

THE MEMPHIS TOURNAMENT.

W. H. VAN BIBBER, who won first place and a diamond medal in this race, was born in Houston, Texas, August 27, 1857. He entered the printing business at Griffin, Ga., in 1874, completing his apprenticeship

in Atlanta, Ga. This is the first tournament or race in which Mr. Van Bibber or any of the other contestants in this tournament were ever engaged. Considering the extreme leanness of the type, 12⅔ ems to lower-case alphabet, and the fact that it was brevier, Mr. Van Bibber's performance was most wonderful. His best corrected score for three hours was 4,935 ems, and his total corrected score for 18 hours was 28,707 ems, beating his nearest rival by 1,869 ems.

T. G. MAYFIELD was born in Mayfield, Ky., July 7, 1863. He entered the business, 1878, at Paducah, Ky., and completed his trade in Nashville, Tenn. Mr. Mayfield won the second prize, a gold medal, beating the next highest score by only 51 ems. His best three hours' corrected score was 4,601 ems, and his total for 18 hours was 26,838 ems.

THOMAS R. DRAKE was born in Little Sioux, Harrison County, Iowa, September 5, 1860. He began the printing business at Missouri Valley, Iowa, in 1872 and finished at Logan, Iowa. He came in third in the race, only 51 ems behind the second man. His best 3 hours' score was 4,612 ems; total for 18 hours, 26,787 ems,

WILLIAM M. HOLMES was born in Memphis, Tenn., May 29, 1863, and served his time on the Memphis *Avalanche* and at L. C. Toof & Co.'s job office, Memphis. Best score for three hours, 4,416 ems; total for 18 hours, 25,461 ems.

JOHN F. SHEATS (who came in last in this race) declines, for reasons best known to himself, to favor us with any information concerning his past life. His best score for three hours was 4,225 ems; total for 18 hours, 24,441 ems.

THE BOSTON TOURNAMENT.

GEORGE GRAHAM, the winner of this tournament, was born in Bristol, England, in 1855. At the age of thirteen he entered the office of the Bridgeport *Farmer*, where he remained two years, and finished his trade on the Bridgeport *Standard*. In 1873 he went to New York and worked on the *Citizen* and *Round Table*. Since then he has worked in Pennsylvania, Ohio, Indiana, Illinois, Michigan, Vermont and New Jersey; has been in Boston about two years, and is at present on the force of the Boston *Globe*. His only public race was the Boston tournament, where in 2 hours, 20 minutes, he set 4,350 ems corrected, and in 14 hours, 24,000 ems corrected.

RICHARD CROSBY was born in Albion, Me., in 1860; served his time on the Manchester *Union*, and is at present connected with the Boston *Evening Record*. He won second place in this tournament, where he set in 2 hours, 20 minutes, 4,350 ems corrected, and in 14 hours, 23,800 ems net.

RICHARD CROSS was born in Memphis, Tenn., in 1857; learned his trade in Tennessee, and is now connected with the Boston *Herald*. He finished third in this contest, where in 2 hours, 20 minutes, he set 4,225 ems corrected, and in 14 hours, 23,425 ems net.

W. H. VAN BIBBER.

JOHN GRANT was born in Ottawa, Can., in 1862; served his time on the Monckton *Times*, and is at present engaged with the Boston *Post*. In the Boston tournament he came in fourth. In 2 hours, 20 minutes, he set 4,100 ems net, and in 14 hours, 22,550 ems corrected.

THE ROCHESTER CONTEST.

JOSEPH FARQUHAR was born in Chesterville, N. Y., May 15, 1860, and learned his trade in the office of Williams, Sleeth & McMillan, Toronto, Can. He afterwards worked on the *Mail* of that city, and subsequently in Albany, Troy, Syracuse and Rochester, N. Y., where he is at present employed on the *Morning Herald*. In the contest at Rochester, March 1, 1886, he won the match and the gold medal, setting 2,025 ems gross, and 1,959 ems corrected, in 1 hour; type, brevier, 25 ems wide; National Rules, excepting that the contestants were allowed deputy stick-emptiers. This is the only public record Mr. Farquhar has made.

CHARLES L. MONROE was born in Brockport, N. Y., in 1860; learned his trade in the office of the Brockport *Republican*, and has worked ten years at the business. In this contest he set, in 1 hour, 1,845 ems gross, and 1,808 ems net, winning second prize—a silver-plated composing stick and rule. He was never a participant in a public typesetting match before.

FREDERICK G. BEACH was born at Albion, N. Y., in 1854. He has never worked on a daily paper other than the Rochester *Democrat*. In the Rochester match he set, in 1 hour, 1,850 ems gross, and 1,792 ems corrected, and won the third prize—a nickel-plated composing rule and stick. This is the only public match in which he has ever taken part.

ALFRED ADRIAN, of the Rochester *Union*, was also one of the contestants in the Rochester match. His time for 1 hour was 1,525 ems gross, and 1,475 ems net.

JOSEPH NORTON, of the Rochester *Post-Express*, likewise struggled for fame in this contest; and, as one of the local Rochester typos puts it, "Came in *a beautiful last*." His time for 1 hour was 1,375 ems gross, and 1,230 ems net.

THE PHILADELPHIA TOURNAMENT.

ALEXANDER DUGUID, the winner in this contest, was born in Aberdeenshire, Scotland, December 15, 1856. He is about five feet seven inches in height, and weighs 135 pounds. When he was three months old his parents left Scotland and settled on a farm in Waterloo

GEORGE GRAHAM.

County, Ontario, where they remained until 1868. They then removed to Lucas County, Ohio, where they lived in Sylvania, near Toledo. In 1872 Alexander, tired of the hard work of the farm, entered the Toledo *Blade* job pressroom, in which he remained a year and then began to set type. In 1876 he joined the Toledo Union, but left that city on a strike in 1878, going to Cleveland, where he "held cases" on the *Press* and *Herald*. In 1883 he went to Cincinnati, and is now employed on the *Enquirer*. In six days on the *Enquirer* he set off the hook 101,800 ems. Inheriting a good constitution, which was strengthened and developed by the exercise and pure air of the farm, and being a total abstainer from intoxicants, and not using tobacco in any form, Mr. Duguid has successfully resisted the debilitating influences of a printer's occupation, and to-day enjoys almost perfect health. He has made a study of the philosophy of setting type and put his theories into practice. He sets type with about the same speed the year round. He was engaged to enter the Chicago tournament, but withdrew when the management insisted on Sunday work. The Philadelphia contest was his first and only match. His best private record previous to this time was 2,093 ems solid minion in an hour. His best score, made in the last trial of the Philadelphia contest, was 3,416 ems in 1 hour, 30 minutes, an average of 2,277⅓ ems per hour. Total gross score for the last day's work (3 hours) 6,804 ems; 6,635¼ ems net. Total for 33 hours, 71,119 ems gross; 69,200¼ ems net. As Mr. Duguid will not set type on a wager, he will probably not engage in any more matches.

JOSEPH W. MCCANN—[see pages 39–40].

WILLIAM C. BARNES—[see pages 40–42].

THOMAS C. LEVY—[see page 42].

PETER THIENES was born in Edinburg, Ind., April 7, 1857, and began to learn his trade in the office of the North Vernon (Ind.) *Plain Dealer*, September 27, 1871. He is well known throughout the trade as an exceedingly rapid workman, but more particularly for his surprising accuracy. In the contest in Philadelphia he set, in 33 hours, 60,323 ems, and lost but 32 minutes in correcting the entire amount. His best gross score was made on the evening of the sixth day—2,912 ems in one hour and a half; his best net score was in the afternoon of the last day of the contest—2,843½ ems in one and a half hours; but his most remarkable performance was on the evening of the third day, when he set 2,734 ems in 1 hour, 30 minutes, with only one turned letter. This is the only public contest in which Mr. Thienes ever participated. He holds the gold medal for the championship of Philadelphia, and also a handsomely engraved silver stick presented by his fellow-workmen in the office of the Philadelphia *Times* for the excellence of his workmanship in the Philadelphia tournament. He has worked in all the leading cities of the United States, and his skill enables him to command a situation at any time. At present he is engaged in the composing-room of the Philadelphia *Times*.

JAMES WASHINGTON, the winner of the bronze medal in the Philadelphia contest, was born at Wolverhampton, England, October 23, 1854. He learned his trade in the offices of the Liverpool *Mercury* and the Manchester *Sporting Chronicle*. He never took part in any other public

JOSEPH FARQUHAR.

contest. His best score in this race was 2,640 gross ems in 1 hour, 30 minutes; 2,596¼ ems, corrected. Total, for 33 hours, 54,927 gross ems, and 53,289½ ems, net. Mr. Washington is a member of the great Washington family.

JAMES J. NOLAN was born in Dublin, Ireland, March 22, 1857, and never engaged in a public contest prior to the Philadelphia tournament. In this race he set, in 33 hours, 53,638 ems, gross, and 52,575¼ ems, net. Best score, for 1 hour, 30 minutes, 2,576 ems, gross, and 2,557¼ ems, net.

WILLIAM CRANE was born in New York City, February 16, 1860. The Philadelphia race was the only one he ever entered. Best scores: 1 hour, 30 minutes, 2,417 gross ems, 2,364¼ net ems; 33 hours, 49,803 gross ems, 47,434¼ net ems.

THE PITTSBURG TOURNAMENT.

WILLIAM C. CLARKE, the winner, was born in Greensburg, Pa., December 15, 1856, and learned his trade on the Pittsburg *Mail*, 1869–1873. His best gross score for 1 hour, 30 minutes was 2,687 ems; best net score, same time, 2,665 ems. Total for 18 hours, gross, 31,091; net, 30,732.

AMOS H. BISSELL, who came in second, was born in Dumville, Ont., August 7, 1855, and learned his trade in the office of the Orangeville (Ont.) *Sun*, 1868–1872. Best scores: 1 hour, 30 minutes, gross, 2,614 ems; net, 2,571 ems; 18 hours, gross, 30,836 ems; net, 29,968.

SAMUEL STERN, third, was born in Fleeden, Germany, December 14, 1864, and learned his trade in the *Republican-Standard* office, Uniontown, Pa., 1879–1882. Best scores: 1 hour, 30 minutes, gross, 2,634 ems; net, 2,596 ems; 18 hours, gross, 30,695 ems; net, 29,835.

T. H. DOLAN, fourth, was born in Pittsburg, June 19, 1859. He learned his trade on the Pittsburg *Telegraph*, 1876–1881. Best scores: 1 hour, 30 minutes, gross, 2,582 ems; net, 2,538 ems; 18 hours, gross, 29,932 ems; net, 29,105 ems.

JOHN J. JONES, fifth, was born in Wales, July 3, 1857; learned his trade at State Printer Singerly's job office, Pittsburg, 1871–1874. Best scores: 1 hour, 30 minutes, gross, 2,538 ems; net, 2,503 ems; 18 hours, gross, 29,197 ems; net, 28,581 ems.

JOHN MILLER DORSEY was born in Rochester, Pa., May 1, 1854; learned his trade on the Beaver (Pa.) *Argus* and Pittsburg *Commercial*, 1871–1875. Best scores: 1 hour, 30 minutes, gross, 2,553 ems; net, 2,531 ems; 18 hours, gross, 27,944 ems; net, 26,850 ems.

MR. MYLES JOHNSON.

We think a work like this would be incomplete without a notice of this rapid compositor. Mr. Myles Johnson was born in the City of Dublin, Ireland, in the year 1851. After coming out on strike on the Dublin *Evening Mail*, in 1870, he emigrated to this country. Mr. Johnson has no public record, but he has an authenticated private one. In a race with

MYLES JOHNSON.

Mr. Harry Cole, in the New York *Herald*, on January 1, 1881, he performed the remarkable feat of setting 16,200 ems "off the hook" in eight consecutive hours. When the size of the type—nonpareil, less than 15 ems to the lower-case alphabet—is taken into consideration, this ranks with the best performances in rapid typesetting. Mr. Johnson is at present employed on the New York *Herald*, and is a genial gentleman whose friendship is sought after and appreciated by all with whom he is associated.

SOME SWIFT COMPOSITORS I HAVE KNOWN.

From the New York Journalist, December 19, 1885.

[By Permission of Amos J. Cummings.]

I began to set type when I was twelve years old, and have "stuck" type in nearly every State in the Union. In 1856 and 1857, while working in the South and West I footed it many a hundred miles. I have known a great many fast typesetters, but the best record in my knowledge was made by Joseph McCann at Tousey's last Tuesday. He set 8,062½ ems in four hours, solid minion, without a break-line. His contestant, W. C. Barnes, was only 111 ems behind him.

While I was working at the case in the *Tribune* office, twenty years ago, there were many fast compositors, subbing and holding frames. One of the swiftest was Ben Glasby. He was as handsome a man as nature ever made—quick and precise of movement, and the perfection of correctness. Night after night I have known him to go without getting a proof. He was a most genial and companionable fellow, well educated, and as bright of intellect as Chas. G. Halpine. When a proof was called out for Glasby I have often seen him turn to the compositor next to him, and heard him say, "Pick up that proof, correct it, and you may have the matter." His hatred of a foul proof seemed instinctive and ungovernable. Many a dollar have I put in my pocket by correcting Ben's proofs.

Another fast compositor was Hugh Morton. I have forgotten his record. He came from Boston, and up to the time of the strike in the *Tribune* office, in 1864, he set the ship news. I know that on a pinch he could set from 1,800 to 2,000 ems an hour, taking the general run of copy. He was a quiet, gentlemanly man, and died years ago. These two men, Glasby and Morton, were recognized as the fastest good typesetters in New York for years. Then a printer by the name of Space came here from New Orleans and took the wind out of their sails. * * *

Another fast typesetter in those days was Mort Rainey, of the *Times*. He retained this faculty and facility to the end of life. Like the majority of instinctive typesetters, he was given to joviality and good fellowship. No matter how shattered his nerves, or how obfuscated his brain, he became himself when he took a stick in his hand. He never lost his speed and never lost his head.

Some years ago George Arensberg came to the city from the great West. His reputation as a fast typesetter was so great that he was known

WILLIAM C. CLARKE.

among the printers as "The Velocipede." He was then a remarkably clean compositor, with a special adaptability for table work. * * *

AMOS J. CUMMINGS.

OLD TIMERS.

Compositors of to-day, who are on the shady side of life, will remember many of the old-time rushers whose biographies are given below, and others who have never been personally acquainted with them, are familiar with their names and reputations.

GEORGE BARBER, better known as "Cleve" Barber, was the first to issue a challenge, and in his day was noted as a "rusher." In 1871 he had a match with Chris. Wall in the Chicago *Times* office. Barber won, setting 8,000 ems solid brevier in five hours, an average of 1,600 ems per hour. Wall averaged 1,570 ems per hour. After Arensberg became famous Barber challenged him, but Arensberg refused to notice the challenge because Barber was not then a member of the Union. He afterward joined the Union in Cincinnati, and died in that city in the year 1880.

CHARLES B. CHURCH is perhaps the best known fast compositor of years ago in the country. For forty years he has been at the business, and for twenty years he has had a national reputation as an all-round, thorough printer. He learned his trade in the days gone by when every "compositor" was a "printer." In response to a letter from us he says: "Nearly all of the generation of compositors to which I belong have gone where proofreaders will never bother them again. It is customary for the oldest inhabitant to glory in the old days and in the achievements of the old boys; but I am painfully aware that the world moves, and am somewhat dazed at the records recently made. It is true that in days gone by I have hung some long strings on the hook, but I never issued or received a challenge, and never entered a race. It is about forty years since I began fooling around a printing office, and you may well believe the novelty has worn off." Mr. Church was included in the ten men in the Cincinnati *Enquirer* challenge in 1877.

GEORGE CLARK was born in Edinburgh, Scotland, in 1836. Served two years on the *Courant*, of that city, but came to this country in 1850 and finished his time in Chicago. Subsequently he went to the Pacific Coast, where he worked in all the principal cities, and was recognized as one of the fastest (if not the fastest) men in California. He also worked on the Cincinnati *Enquirer* and *Penny Post*, and in other cities in the West. Finally he located in St. Louis, where he still resides. In 1858 he helped to organize the local Union, and has been an active member for thirty years. He has filled nearly every position in St. Louis Union, and was six times elected delegate to the International Union; elected President of the International Union twice, in 1881 and

PETER THIENES.

1882, and filled the position with credit and benefit to the members of the Union. During his presidency fifty-three new Unions were organized. Mr. Clark's best record in setting type was made on the Missouri *Republican* in the fall of 1858, when he set 1,900 ems in an hour, solid nonpareil, "manifest" of a steamer, without a break-line, manuscript copy, with but one error, a turned letter. Some months later, in a race on the St. Joseph *Gazette*, with a local celebrity, he set 4,500 ems solid minion in two hours and a half, beating his opponent about a thousand. In 1864 Mr. Clark set, off the hook, on the Missouri *Republican*, without "ads" or bonuses, 24,000 ems in about sixteen hours. This was a test of endurance rather than speed, and was the largest "string" by 3,000 hung up that day.

PHILIP F. COGHLAN is one of the most wonderful old-time fast compositors in the country in the matter of endurance. It is believed he has no equal in that respect. He was born in Louisville, Ky., January 10, 1833, and is now fifty-four years of age. He first set type in June, 1841, on the Belleville (Ill.) *Advocate*, but "finished" in St. Louis, in the job office of John Ustick. He joined the old Typographical Society in 1851, and went soon after on the Missouri *Republican*. In those days they went to press at 10 o'clock. With the exception of about six years, when he was in a country office and a year in the army, Mr. Coghlan has worked on morning newspapers for over thirty-five years, and to-day can hang as big a "string" on the hook as the best of the boys. He has a constitution of iron, and at the age of fifty-four sets type with all the vigor and perseverance of his younger days. It is said Mr. Coghlan could average 1,600 ems an hour for twenty-four consecutive hours, and not vary a hundred in each hour. Many an ambitious young "rusher" has been compelled to pull down his colors by this veteran compositor. In their younger days Mr. Coghlan and Mr. George Clark had many a friendly brush, in which honors were about evenly divided.

VICTOR O. LOOMIS has also a national reputation as a fast compositor. He was born in New York City in 1840, and learned his trade in the *Commercial Advertiser* office. He made his first trip to St. Louis in 1859, and has since worked in every section of the country. He is at present on the Chicago *News*. Though able to hold his own with the noted "rushers" wherever he has gone, he has never had a match, either for pleasure or for money. He can set about 2,000 ems an hour.

"OLD JACK FASEY" (so called to distinguish him from his son, "Young Jack") belonged to the last generation of fast compositors. Philadelphia printers love to sound his praises, and one of the "oldest inhabitants" (of a Philadelphia printing office) says: "He was a daisy and no mistake, and if he were now living he would make you chaps work hard to hold up your end of the log. "Young Jack" was not far behind his father in the matter of speed.

HARRY COLE, who has circumnavigated the globe and has just started from New York to again do so, is known to fame in every large printing office in England, Australia, New Zealand and the United States. His race in the New York *Herald* office with Myles Johnson stamps him as one of the fastest men who ever stood in front of a case. "'Arry"

is a true friend, a sincere enemy, a strong labor advocate and is well-known in all the sporting circles as ever willing to risk his time and money on any endeavor to best the top records. Indeed he is the counterpart of Mark Twain's Tim Smiley—"If he saw two birds sitting on a fence he would bet on which would fly first."

GEORGE STEPHENS, at present with the Boston *Globe*, ten years ago could rattle up type with a dexterity that was, to say the least, discouraging to those who endeavored to keep up with him. Good living and a proper regard for the rules of hygiene have rendered him too obese for comfort and hard work, and he has slackened his speed somewhat, but still collects as much money on pay-day as most of the "boys."

JACK RUSSELL, at one time on the Chicago *Post*, was celebrated for his rapidity, but more so (and justly) for his cleanliness. He could set type an entire week without a proof, and when he put on a "sub" he would not allow him to distribute any type, so careful was he of the condition of his cases.

JAMES SHOBER, who was killed in Washington in a quarrel a short time ago, was exceedingly swift, had extraordinary control of his nerves, and was celebrated as having the neatest and cleanest motion of any fast compositor of past or present time. His picking-up of type was literally "poetry of motion."

JAMES CURTIN and JOHN DRIVER, at present working on the Philadelphia *Telegraph*, are believed by Philadelphia printers of to-day to be as good as the best at handling the leaden emblems, though their proverbial modesty has thus far deterred them from making a public record.

ALLEN M. LEACH, of the Cleveland *Press*, has made a reputation wherever he has gone as one of the prettiest and most rapid compositors in the country.

MR. —— PACE, of New Orleans, worked in the New York *Herald* office in 1854, and beat them all at that time on reprint, but had no idea of punctuation. He returned to New Orleans and died many years ago.

"THE" BRUCE, an Englishman, who came to New York in the fifties, was a remarkable compositor. He ran up to 2,000 an hour in London, but hardly reached that figure in this country.

MR. —— VAN HORN, who worked on the New York *Commercial Advertiser* in 1859, was said to have a record of 2,200 per hour. Now dead.

MESSRS. HENRY, LOUIS, CHARLES and GEORGE VOGT were considered fast men in New York in the fifties.

MR. YESS LESEUR, of St. Louis, was said to have a record in 1860 of 2,000 ems an hour.

"ROYAL" BENJAMIN BANNAHAN, of New Orleans, is deserving of mention as a noted fast compositor.

SIDNEY BENNETT, now of Cleveland, Ohio, is well known through the country as an old-time fast compositor, and is still able to hang a big string on the hook.

AL. ULRICH has a reputation, being very rapid, and was one of the *Enquirer's* "Big Ten."

MR. H. T. OGDEN, of Cincinnati was a very fast typesetter in his younger days, and had few equals in book composition. He is prominent in Prohibition politics, and was candidate for Lieutenant Governor of Ohio.

SAMUEL ANDREWS, a native of England, for many years manager of the Toledo *Blade* job rooms, was said to be the champion compositor in the Maumee Valley about twenty-five years ago.

MR. JOHN W. BELL, formerly foreman of the Cincinnati *Enquirer* newsroom, was a very rapid and correct typesetter in his younger days.

WILLIAM LEANING, some time ago foreman of the New York *Herald*, is highly spoken of by those who worked with him as very rapid.

HOWARD P. TAYLOR'S friends claim for him that when he worked at the case no one could beat him, and they aver the belief that he now can beat the "best on record.' He is at present a successful dramatic author.

SYLVESTER BAILEY, now with Mr. George La Faye (*Sunday Democrat*, N. Y), in his younger days could clean out a case with marvelous speed and accuracy, but Father Time has knocked him out and he is now satisfied to keep up with the average.

BILL MASON, who died about ten years ago in Bellevue Hospital, New York, was a remarkably fast compositor, and well known all over the country.

TYPESETTING MACHINES.

The wealth of a Crœsus, and a place in the temple of fame, beside Howe and Morse, await the genius who shall invent, and put before the world a mechanical contrivance that will supersede the present system of setting type by hand. While almost every other business or calling—from the watchmaker and scrivener's clerk, down to the hod-carrier and street sweeper—have had their vocation usurped by the successful introduction of machinery, the typesetter continues, in the same manner he has been doing for centuries, picking the tiny bits of metal from their respective receptacles, utterly heedless of the wonderful attempts that have been made to produce a typesetting machine to take his place. A great many typesetting machines—something over one hundred—have been invented since the first one was introduced by W. Church in 1822, but they have all proved failures—practically.

Mr. Thomas Fisher, in an interesting paper read by him before the Polytechnic Typographical Association, in 1886, gives the following descriptions of the various typesetting machines invented since 1822:

"A typical machine is the 'Hattersley,' patented in England, in 1857, which consists of a horizontal top stage, on which is placed a partitioned tray, each partition containing a row of letters. Descending vertically along the front of this tray is a series of wires with pistons, and the pistons are depressed by the keys acting by bell cranks, which are brought back to their first position by india-rubber bands or springs. A propeller, kept in a state of tension by an india-rubber spring, is placed in the rear of each row, and draws them forward to the piston. If we press on a key, it

depresses the piston which pulls down with it a type, and drops it into a tube, which conveys it to the stick. The series of channels converge to a common mouth, through which every type in succession must pass.

"In the 'Fraser' machine, by an Edinburgh printer, the same principle is adopted, and it is claimed for it that from 10,000 to 20,000 can be set in a continuous line per hour. A distributor is added, and is almost a duplicate of the composer. It separates the different letters by switches acted on by keys. On the depression of a key, the corresponding switch is opened, and the type guided to its proper compartment in the composing machine reservoir.

"Another machine of a similar class is the 'Bracklesberg.'

"A machine which has been in use for some time, turning out a lot of work, is that invented by Dr. Mackie, of Warrington. It is worked like the previous ones on the piano-key principle, but there its similarity ends. The process is very elaborate and the action purely automatic, being governed by strips of perforated paper. It consists of two parts, the perforator and composer. The perforator is a tiny instrument consisting of fourteen keys, by means of which narrow strips of paper are perforated. The composer consists of three horizontal rings about three feet in diameter, and two inches broad, the end one at the top being at rest. On the top of the ring twenty pockets are inserted, each of which contains compartments for seven different kinds of type, and sufficiently open at the bottom to allow the apparatus to extract the bottom type from any one of the divisions as wanted. The middle or carrying ring has twenty pickpockets, each carrying seven of what are called the 'legs-of-man' and seven fingers. At the place where the operations commence, there is a drum with fourteen perforations across its upper surface, and over this drum the previously perforated paper is made to travel about one-tenth of an inch each movement. Over the top of the drum of paper there are fourteen levers with pegs which are always seeking to enter the perforation in the drum, but are only able to enter those which have corresponding perforations in the paper. Two holes are made in the paper for the 'legs-of-man,' and from one to seven for the fingers. On the type being extracted it lies upon the traveling ring till it reaches the delivery channel, when a pusher places it on the traveling belt a few inches longer, from which it is pushed down a syphon spout, one letter upon another, on to the delivery slab ready to be justified to lines of the required length.

"Another invention, adopting quite a different method to secure the same object, is the 'Matrix Compositor' of J. E. Sweet, which was introduced, but did not work very satifactorily at the Paris Exhibition of 1867. It was designed to form a mold or matrix for stereotype plates, disposing of movable types, and the labor of setting and distributing them. By operating on the keys of the machine, impressions are made in thick, soft or dry paper, of the letters required. From the mold thus formed, the plates are cast in the usual way.

"A somewhat similar attempt, but going still further—casting the type—is that of 'E. Codignola,' one of the last in the field. This class of machine may prove an ugly rival in plain reprint, but in defective manuscript it is another question, as the smallest 'literal' will necessitate the

recasting of the line, and if there should be an 'out' or 'double,' half or even an entire column would have to be recast.

"The 'Alden' composing and distributing machine is interesting, showing how Herculean a task is the invention of a perfect machine, and for the affecting details of the life of the inventor, who worked twenty years trying to perfect the machine, and spent $40,000 upon it, and then died six months after taking out the patent. Some idea of the complicated nature of the mechanism may be derived from the fact that it contained 14,626 pieces, and weighed more than 1,420 pounds. It is estimated both to set and distribute 8,000 per hour, and on a brief trial it has composed 2,000 ems in ten minutes. The principle is novel. A half-round table incloses a horizontal revolving wheel, about two feet in diameter. Between the outer table and the inner revolving wheel is a vacant space about one-eighth of an inch broad. Between this and the outside of the table are rranged the type cases. In front, where the operator stands, is the matter for distribution. There are 180 alleys radiating from the central carrying wheel, holding the 154 different characters (for unlike most machines all sorts are set up). On the revolving wheel are thirty-six hands, made as near as possible like human hands. These are placed alternately, one-half distributing and the other composing. The types are arranged round the wheel, and the fingers of the hand are pushed out by the pressing of the keys, when opposite the required type. Although its distributing arrangements are said to be perfect, each letter or space requires a distinguishing nick, so that ordinary type would be of no use. Since the death of the inventor it has been much improved, the working parts largely diminished, and the composer and distributor altered into two separate machines.

"An apparatus best known on the other side of the Atlantic is the 'Brown' composing, justifying and distributing machine. The case consists of a series of grooves or channels ranged side by side. In these channels the types stand on their feet, the case being put at such an angle that they slide downwards by their own gravity and rest upon the bar which closes the lower end of the groove. Across the foot a shield is placed, provided with openings for the types to pass through, and an index showing the letters which the case contains. Below and in front of the case, sliding backward and forward, at the will of the operator, is a stick (or mechanical hand), which takes the letters from the case. The uppermost end of the stick forms an indicator corresponding to the index upon the shield. The key is provided at one end with a tongue or plunger for lifting the type, and the other forms a handle for working it, which does not weigh more than a few ounces, and can be moved with ease and rapidity. The operator holds the handle with finger and thumb, and runs it opposite the letter to be taken. This is so arranged with a distinguishing gauge that no greater accuracy is required than in playing a piano. As the handle is raised again, the follower pushes the stamp just lifted sufficiently down the channel for the next one to be taken. This operation is repeated till the stick is full, when it is run to one end and the line is slipped into the justifier. The distributor consists of a rotating ring about ten inches in diameter. At regular intervals on the edge of the ring are recesses for holding the type while being carried to their places. Radiating from this ring are the channels into which the types are

distributed, and which, when full, are transferred to the composer, and constitute a part of the case. It takes one line at a time and lifts it into a channel in which it is fed towards a distributing ring a little below. This ring has an intermittent motion, and each motion brings one of the recesses directly over the line. One after another the types are forced up into this recess. The recess is large enough to receive any sized type, and is formed by cutting a slit in the ring and inserting a set of levers. The ejector which forces out the letter when it arrives at its proper place, forms the back of the recess, and the nicks are opposite one of the levers. As the short arms shut against the edge of the type some of them enter the nicks, the long arm taking a corresponding position. This position, acting in connection with the keys, determines where the type shall be ejected. The keys slide in and out, and the motion of the ring brings each set of levers successively in front of each key. The keys advance a short distance by the ends of the levers, and when the shape of the keys correspond to the position of the levers the keys advance farther, and, acting upon the ejector, forces out the letter.

"The 'W. H. Mitchell' machine consists of an apparatus for distributing types from the form and setting them up in rows within grooves, with the face of the type upwards. From these grooves the types are removed, each row of a given letter at a time, and placed within conductors which supply them to the apparatus connected with the finger-keys. The stroke of any finger-key drops one of the types upon a series of belts which are moved by pulleys. The belts conduct the type to a composing-wheel in the order in which the keys drop them.

"The 'F. W. Gilmer' machine consists of three parts—the case holding the types, the composing-stick for withdrawing type from the case and setting it in line, and the distributing-stick for transferring the type from the line to the case.

"The 'D. B. Ray' machine is a very ingenious attempt. In this machine tubes are so constructed that the type when distributed into hoppers by hand shall be made to arrange themselves through the tubes, with the nicks all turned the same way.

"An automatic machine was introduced from Germany in 1879. It requires neither steam power nor electricity. The types slide down grooves by means of pointers like pen-holders, which are dipped into round-topped, cone-shaped holes placed in a cluster just where the grooves take a sharp bend, before running down at a sharper angle, at the bottom of which they slip into their places, and are pushed along the stick by ingeniously contrived clockwork. The distributing process is very tedious, as every letter has to be laid down right end foremost and right side up. Unless this defect is got over it is not likely to come to the front, for at whatever speed it may work, it cannot get on without type, and in this case it would take three girls to keep one compositor employed.

"Another attempt at the acceleration of composition was introduced in 1882, under the title of 'Porter's' type-composing machine. The apparatus is simple, and consists of a collection of troughs in which the types to be composed stand upright with the nicks all one way. The invention consists of the ready way in which the compositor can get his types into the stick. When the operator requires a letter, he places his foot on a

small lever near the ground, and this action causes the letter required to move slightly forward, ready for the compositor's hand; this letter is taken by him with the finger and thumb as in ordinary composition, with the difference of taking a single letter to his stick, he can gather up several to make a complete word or words. Another method is that of justifying the matter in a double-sided galley with a setting-rule and guide without taking it to the stick. The distribution is slow, and consists in filling up the troughs with a supply of type.

"Dr. Alexander Mackie has introduced an apparatus in order to supply duplicate columns for newspapers, and for the headings of books. It is called the 'Manifold' typesetting machine, and although it only sets at half the speed of ordinary composition, it actually performs about twenty times the work. Upon thin brass rules are placed twenty letters, all alike, on the flat. When ready for setting, one brass after another is emptied into a common setting stick, with the following result: Suppose you want to set the words 'Polytechnic Typographical Association,' you empty one brass of cap P's into the stick the narrow way, then one of O's, one of L's, and so on. When the stick is full you will have twenty lines of thirty-five letters each, set by thirty-seven movements of the hand, emptying the same number of brasses. The distributing is done by reversing the operation, and a slicing machine puts each row upon its own brasses.

"The 'Kastenbein' machine has been made famous by the assistance it rendered in the system of late news supply adopted by the London *Times*. The compositor is in direct telephonic communication with the reporter at the Houses of Parliament, who speaks to the compositor, who puts the words into type with the machine, ringing a bell to indicate that he is ready for the next instalment. The machine has been much modified and improved since its introduction soon after the Franco-German war, until it has now reached a state of great efficiency.

"The 'Colt's' machine has a very novel arrangement, enabling it to distribute while it sets; the work of distribution being more rapid than the composition, the cases are always full. The distributor is regulated in such a way that the instant the lower-case 'e' box is full the work of distribution stops. Each letter goes to its appropriate case as regularly as a key fits its own lock.

"Those who visited the exhibition of 1880, will doubtless remember the stir caused by the working of the 'Hooker' machine. This machine has neither keys nor buttons. As in most other machines, the types are contained in a series of troughs, and are abstracted from these receptacles in the order desired, by the opening of a small trap, which allows the stamps to fall upon endless moving tapes, carrying them forward to a collector which builds them into a continuous line to be justified by hand. The discharge of the letters from the troughs is effected by means of an electric current passing through a series of electro-magnets corresponding to the troughs. A wire from the battery brings the electric current to the metal stylus in the hand of the compositor, who touches the contact plates (arranged like an ordinary lower-case) with this stylus, and completes the circuit, which sends a current through the electro-magnet corresponding to the letter required. This machine could not be made to pay, as the types

twisted on the tapes, and when the proof came from the reader the compositor had very often to perform that disagreeable and unprofitable operation sometimes known as 'making ready for spike island.' Its ease in manipulation is one of its chief recommendations.

"A machine introduced very recently to compose, justify and distribute is the 'Tagerman.' The types are placed in a series of upright tubes. Attached to the composing apparatus is a gripper, by which the types required are taken from these tubes and placed in the composing-stick, letter by letter. Two thick spaces are inserted between the words as the line is composed, and by a very ingenious contrivance the spacing out of the line is altered as required, and the line is then placed on a galley, and so on each line is deposited till the column is composed. The compositor, by keeping his first three right-hand fingers in the hollow thimbles attached to the composing apparatus, touches a spring as it passes under the tube containing the type required, and the gripper then catches the letter from the bottom of the tube and deposits it in the composing-stick. The machine can be worked by treadle or power.

"In the 'Winder' machine the composing and distributing machines are separate, and it does not justify, but it works with precision, and takes up very little room. In the distributor the types are driven along singly until they reach their own siding, when they are shunted into it out of the way. These, when full, are cleared into other slips, and hung on nails or hooks waiting till the composing machine wants them, when they are emptied into the case, and wait there until the operator touches the key that shoots them out to a leather band. The action of this band is not continuous, for it stops when the letters are falling on it, and then carries them to a metal landing place, where they are collected by means of an iron finger, and launched on to another band on which they ride safely for a few inches lying on their flat side. Another contrivance takes every stamp as tenderly as though it loved it and puts it on its back, nick uppermost. Presently the line reaches a stick which is part of a galley, and the matter is justified as if set by hand. A speed of from 5,000 to 22,000 ems per hour is claimed for these machines.

"A machine is announced which not only sets type by electricity, but also (parodoxical as it may seem) corrects all the errors before the type is composed. A tape is prepared which is run through the machine and passed over a steel roller, and under a row of ten steel fingers, and by the rows of holes prepared in the tape electro magnetic communication is set up. The corrections can be made in the tapes."

The last issue of *The Paper and Printing Trades' Journal*, of London, contains the following:

"A new composing machine, called the 'Gutenberg Typesetter,' is the invention of a German engineer, Herr Fischer. It is different from other machines in being a kind of case in which the type is, to a certain extent, brought to the worker, so that it is in fact an improved case, with mechanical action. The letters are ranged one over the other in perpendicular pipes, the arrangement being nearly the same as in the ordinary case. The principle of the machine—the rapid and easy bringing of the type before the compositor—may be realized in three different ways. In the first, in each type-rail is a slide horizontally moving backward and forward; the slide has a plate or shield on its foremost end, with an indi-

cation of the letters contained in the type-holders, while a driver in the other end causes the lowest type to project one-half of its length out of the column. Every time a type is taken out (by the fingers) this driver returns to its place as the pressure is taken off the shield, and another type is driven into position to be seized by the compositor. An india-rubber strip prevents the letter from being thrown out altogether.

"Another device for feeding the type consists in two rotary levers fastened to each letter-rail, so arranged that when the top of one lever is pressed by seizing the type, the other lever pushes the type forward with its top. A third device is purely mechanical and automatic; the rails have an oscillatory motion, by means of rods and eccentrics on a driving shaft. The drivers push forward all equal type where not already advanced; in the latter case they move to and fro in the empty space between the sole of the type-holder and second lowest letter without any action. As the type has always the nick in the same direction, the compositor has simply to put the type in the composing-stick. The new machine, or 'automatic case,' has been constructed more for the purpose of increasing the power of the compositor than for doing away with him. In fact, intellectual work is so intimately connected with typesetting that machine labor must always play a subordinate part.

"The distributing machine is very ingeniously constructed. It works automatically and simultaneously at eight different places. The matter for distribution is taken up by a small apparatus and placed in long metal pipes. The quads are first taken out, and then the pipes are placed on the distributing machine. The under part then begins to rotate. As said before, all of the nicks are in the same direction, and while the empty pipes below are revolving rapidly, movable feeders take rapid hold of the nicks from the end of the distributing pipes. Of these nicks each letter has from two to eight in various order. When two feeders fit into two nicks the right letter is found, and it falls out and drops into the pipe. When the pipe is full the machine gives notice by stopping. This principle is the same as that adopted in the Chubb safe-lock. The letters are passed twice through the machine; the first time all types of the same thickness are sorted together.

"As much as 6,000 ems per hour has been set by the apparatus, but the average is placed at 3,700. These are, however, German figures, and the average work of a German compositor is 1,800 ems. The composing apparatus costs from 600 to 700 marks (£30 to £35); the distributing machine, for three or four type machines, 3,500 marks. The general opinion seems to be that the construction of the machines is based on sound ideas, and that they will prove of great practical utility."

Some of these machines—notably the "Fraser," the "Alden" and the "Hooker"—are extraordinary mechanical productions; in fact, to the uninitiated observer, they appear to be the acme of perfection. Many practical printers on having seen some of these machines—especially the "Alden"—have come away impressed with their thorough practicability, believing that the "Alden," which is a marvelous machine, setting and distributing at the same time, was eminently perfect, and destined to be a successful competitor of the compositors. But it, too, has proved a decided failure, a number of printing offices that have had them on trial having sent them back to their owners in disgust.

There is no branch of mechanical ingenuity that lags so slowly in improvement. The sewing machine, although not invented for about twenty-three years after the typesetting machine, has been gradually brought to such perfection that no hand can successfully compete with it in beauty of workmanship or completeness of finish. The same may be said of many other machines invented since the typesetting machine first startled the printing world.

Aside from the fact that the machine breaks and unnecessarily wears a great deal of type, lacks simplicity in construction, is very noisy, involves the extra cost of making special type for it, and the impossibility of keeping it working continuously for any reasonable length of time (all of which obstacles must be remedied), there is one stumbling-block to its final utility that cannot be overcome, namely: the power to justify the type as fast, or indeed half as fast, as the machine sets it. This is where the competition between the typesetting machine and the compositor begins. The person who justifies the type after the machine sets it cannot keep pace with the machine. He cannot justify an average of more than four lines of newspaper measure per minute. This is not enough to pay for the machine, its wear and tear, the cost of motive power and three hands—the boy who looks after the distributor, the operator and the justifier—who are absolutely necessary to run each machine.

Then again, it cannot be used on newspaper work, for the reason that it cannot manipulate smaller type than minion (nonpareil and agate being the principal types used on newspapers in this country), and its liability to get clogged up or go out of repair at a critical and precious moment, perhaps when the last forms were waiting completion for the press. Taking all these things into consideration, the typesetting machine is a failure.

It is all very well to say that the compositor's art is mechanical, but the inability to replace him by competent machinery gives the lie direct to the assertion. In all machines the same operations are repeated from time to time, whereas the apparatus for composing may be at work for years and may not once perform exactly similar motions for five minutes together. In short, what is wanted is a piece of mechanism that can think, and the numerous efforts to secure this phenomenon proves the sure foundation on which the compositor's art is based.

REPRINT OF THE "BEST-ON-RECORDS."

It has been deemed advisable to give a reprint of the copy from which the leading "best-on-records" were made. This in order that any compositor who may wish to test his speed in comparison with that of any work hitherto performed may do so from the same copy, under the same conditions and with the same type. But the *latter* is not absolutely

necessary. If any compositor can take the copy which follows, and reproduce the *same words in any kind of type* in less time than it was originally set, he can, with reasonable certainty, feel assured of his ability to defeat the compositor making the record, always providing he adheres to the conditions in regard to spacing, etc. We therefore furnish the copy used by the compositors making the best one hour (professional*), one hour and a half, three and four hours (professional*) and one hour and a half (blindfolded):

ONE HOUR—[2,160 EMS].

By WILLIAM C. BARNES, September 10, 1885, New York *Times* office; nonpareil, solid, 16 ems to lower-case alphabet, 29 ems wide, no break-line (the *Clipper Almanac* for 1887 says "one break-line," this was an error), second-sized case, not emptying sticks, spaced with three-em spaces in composition and spacing out with nothing thicker than en-quads. [In this match Barnes set 2,001 ems in 55 minutes and 30 seconds.]

The Californian has no possession which he cherishes so fondly as his honor. If he were asked to define the word, he would probably display very vague notions of its meaning; but if it were assailed by name, he would have no hesitation in giving a practical demonstration of the value in which he held it. San Francisco has had a peculiar history. Through the negligence of its better class of citizens in the early days, an unreliable or inefficient judiciary was placed on the bench, and a reign of lawlessness and bloodshed was the result. Stern measures were adopted to check the spread of crime. The Vigilance Committee, itself a lawless organization, but expressive of the sentiments of the better portion of the community, sprang into life and usurped the functions of the courts, giving the wrongdoers a short shrift and little mercy. The swift and certain judgments of this little body of men soon became a terror to criminals, and the current of crime was checked; but the reactionary effect of this reign of violence brought its own train of misfortune. The success of the Vigilance Committee, extending over a period of a few years, undermined respect for the law, and planted seeds of violence which have already borne bitter fruit. Engrafted upon this singular historic experience came the influence of the southern chivalry, who formed a considerable portion of the population, and who brought with them the traditions of their section, which demanded prompt and uncompromising personal retaliation for any offensive reflection or distasteful sentiment. The idea of honor in San Francisco has come to be an instant and violent assertion of the passion aroused by an offensive action or remark. It matters not how cowardly the manner in which this assertion is made, and the most disgraceful methods are employed to evade the just consequences of the deed, while on the other hand the question of expediency will lead the victim to condone the most brutal outrage. These two considerations combined—the indulgence of unbridled temper in the guise of a high and noble sentiment, and the easy manner in which the results are evaded through a free exercise of social and financial considerations—have come to be a menace to the community, for under their auspices people shoot and stab each other with impunity, and murderers go unhung. Not a week passes without its grim record of carnage and slaughter. Young men, smarting under a sense of injury caused by some comrade's thoughtless words, steal upon the offender unawares, and, without offering him a chance for defense or resistance, strike him to the ground, and walk off with self-gratulation that their honor has been preserved, without stopping to speculate whether their victims will awake in this world or the next. Young women who have sacrificed their purity without an instant's regret, moved by fierce resentment when they hear themselves called the thing they have become, or filled with indignation when a rival supplants them in the affections of their betrayer, take a tardy revenge upon him with the pistol or the knife. Business men, who regard human souls as merchantable commodities to be bought and sold with every lying bargain, will savagely repel any aspersions of their honor. Even the seven-year-old school-boy listens gravely to his

"Professional"—For a money wager.

father's injunctions, "Don't let any of the boys get the better of you, my lad. Fight your own way. See that you take care of your honor!" And when one of his little schoolmates utters a remark which is not to his liking, the young scion of California chivalry watches his opportunity to get in a sly blow upon some vulnerable portion of his friend.

ONE HOUR AND A HALF—[3,416 EMS].

By ALEXANDER DUGUID, March 27, 1886, Philadelphia, National Tournament. Nonpareil, solid, $17\frac{2}{3}$ ems to lower-case alphabet, 28 ems wide, no break-line, full-sized cases, emptying his own sticks, conditions of spacing same as in National Rules. This is an average of $2{,}277\frac{1}{3}$ ems per hour.

distance before us, and neither very thickly wooded nor very bushy; but no bear was to be seen, although our eye could penetrate the woods for at least two hundred yards. After the first disappointing glance around we thought bruin might have mounted a tree, but such was not the case, as, on looking everywhere, nothing could be seen of his black body, and we were obliged to conclude that he had run out of sight in the brief space of time we occupied in ascending the little bank. As we were once standing at the root of a large sycamore tree on the borders of a long and deep pond, on the edge of which, in our rear, there was a thick and extensive cane-brake, we heard a rushing, roaring noise, as if some heavy animal was bearing down and passing rapidly through the canes directly towards us. We were not kept long in suspense, for in an instant or two a large bear dashed out of the dense cane, and plunging into the pond without having even seen us, made off with considerable speed through the water towards the other shore. Having only bird-shot in our gun we did not think it worth while to call his attention to us by firing at him, but turned to the cane-brake expecting to hear either dogs or men approaching shortly. No further noise could be heard, however, and the surrounding woods were as still as before this adventure. We supposed the bear had been started at some distance, and that his pursuers, not being able to follow him through the almost impenetrable canes, had given up the hunt. Being one night sleeping in the house of a friend, who was a planter in the State of Louisiana, we were awakened by a servant bearing a light, who gave us a note which he said his master had just received. We found it to be a communication from a neighbor, requesting our host and ourself to join him as soon as possible, and assist in killing some bears at that moment engaged in destroying his corn. We were not long in dressing, and on entering the parlor found our friend equipped. The overseer's horn was heard calling up the negroes, some were already saddling our horses, whilst others were gathering all the cur-dogs of the plantation. All was bustle. Before half an hour had elapsed, four stout negro men, armed with axes and knives, and mounted on strong nags, were following us at a round gallop through the woods, as we made directly for the neighbor's plantation. The night was none of the most favorable, a drizzling rain rendering the atmosphere thick and rather sultry; but as we were well acquainted with the course, we soon reached the house, where the owner was awaiting our arrival. There were now three of us armed with guns, half a dozen servants and a good pack of dogs of all kinds. We jogged on towards the detached field in which the bears were at work. The owner told us that for some days several of these animals had visited his corn, and that a negro who was sent every afternoon to see at what part of the enclosure they entered had assured him there were at least five in the field that night. A plan of attack was formed: The bars at the usual entrance of the field were to be put down without noise; the men and dogs were to divide and afterwards proceed so as to surround the bears, when, at the sounding of our horns, everyone was to charge towards the centre of the field and shout as loudly as possible, which, it was judged, would so intimidate the animals as to induce them to seek refuge upon the dead trees with which the field was still partially covered. The plan succeeded; the horns sounded, the horses galloped forward, the men shouted, the dogs barked and howled. The shrieks of the negroes were enough to frighten a legion of bears, and by the time we reached the middle of the field, we found that several had mounted the trees, and, having lighted fires, we now saw them crouched at the junction of the larger branches with the trunks. Two were immediately shot down. They were cubs, of no great size, and being already half dead, were quickly dispatched by

the dogs. We were anxious to procure as much sport as possible, and having observed one of the bears, which, from its size, we conjectured to be the mother of the two cubs just killed, we ordered the negroes to cut down the tree on which it was perched, when it was intended the dogs should have a tug with it, while we should support them and assist in preventing the bear from escaping by wounding it in one of the hind-legs. The surrounding woods now echoed to the blows of the axemen. The tree was large and tough, having been girded more than two years, and the operation of felling it seemed extremely tedious. However, at length it began to vibrate at each stroke; a few inches alone now supported it, and in a short time it came crashing to the ground. The dogs rushed to the charge and harassed the bear on all sides, whilst we surrounded the poor animal. As its life depended upon its courage and strength, it exercised both in the most energetic manner. Now and then it seized a dog and killed him by a single stroke. At another time a well-administered blow of one of its fore-legs sent an assailant off, yelping. The dogs rushed to the charge and harassed the bear on all sides, whilst we surrounded the poor animal. As its life depended upon its courage and strength, it exercised both in the most energetic manner. Now and then it seized a dog and killed him by a single stroke. At another time a well-administered blow of one of its fore-legs sent an assailant off, yelping. The dogs rushed to the charge and harassed the bear on all sides, whilst*

THREE HOURS—[6,350 EMS].

By JOSEPH W. MCCANN, *Star* office, New York; minion, 15⅞ ems to lower-case alphabet, 25 ems wide, no break-line, two-third cases, helpers to empty; sticks conditions of spacing, nothing thicker than one em in composition, nor one and one-half ems in correcting:

The private secretary of the President on Tuesday said to the Washington correspondent of the Eagle that the successor of ex-United States District Attorney Tenney would be named within a week or ten days, but that the successor of Revenue Collector Rodney C. Ward would not be appointed for a month yet. The expression of opinion by Colonel Lamont is liable to the error of being possibly telegraphed not with those careful qualifications which mark his utterances. As more than an expression of opinion by him it should not be regarded. He is too prudent and quiet a man to assume to speak for the Executive, whose action, always bearing the stamp of independence, as often by its suddenness and singularity surprises those near to him as it does those remote from him. As it was with Governor Cleveland so will it be not seldom with President Cleveland. He will act, when he is not expected, and refrain from action, when action is looked for. His associates in many cases will know no more of the time or of the tenor of his intentions than the general public, which will learn them simply by the fact of his carrying them into effect. Invincibly reticent in reaching conclusions the President is, of all men, the most frank and explicit in showing what they are when he has reached them, but not before. The omission of the Administration to act promptly on appointments within this State is entirely intelligible to democrats who know the deliberate methods of President Cleveland. It is capable of being explained also by the fact that there are eight and thirty States and ten territories to take into account, with any of which Mr. Cleveland is less familiar than he is with New York. His habit is to study everything thoroughly; to investigate what he knows least about first and carefully; to defer what he thinks he does know most about, until matters requiring more examination have been mastered. This is the law of his mind. It is the habit of his action. It is the course of his Administration. Doubtless the opinion ascribed to Colonel Lamont was based on his estimate of the President's methods only. It could not be based on any expression by the President himself. Expression beforehand is what he does not make. While this State and while Brooklyn will, of course, have to wait upon the President's great quantity and deliberate manner of orderly labor, the fact is one on some accounts to be regretted. The business of the Government suffers by the omission to fill Mr. Tenney's place, which became vacant a fortnight ago, with some competent Demo-

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Mr. Duguid, having set all the copy given him by the referee, began a few lines from the end of the copy and set until time was called. This accounts for the repetition.

cratic lawyer. Mr. Tenney does not hold over. There is no United States District Attorney for this district. His assistants do not hold over. The office is in abeyance. There is public need that it be filled. Neither the morale of the party nor the interest of the United States is promoted by the omission to fill it. The prestige of the Administration with those who made it and its respect with its opponents suffer by the inaction. The same is measurably true with the Revenue Collectorship. Though Colonel Ward still officiates by the sufferance of the Administration, he is as a tenant who has received notice to vacate, but who fails to find the notice effectuated by those who give it. To those who expected that the difficult thing would be the reluctance of Republican officials to go, the unreadiness of a Democratic Administration to name their successors is devoid neither of amusement nor of embarrassment. The fault cannot be said to rest with the Democracy. To the extent to which they have been consulted at all, they have shown themselves ready to submit a series of acceptable and competent names for each separate place, indorsing all and preferring or prescribing none as against the others, leaving the Administration free to select from among them, or to request that they add more unto them. And the candidates themselves have been careful to respect the amenities of friendly rivalry and to regard the absolute freedom of the Administration in the premises. The delay, the reasons for which, as shown, doubtless grow out of the deliberate and conscientious methods of Mr. Cleveland and the public and political embarrassments of which we have frankly indicated, is being malignantly misinterpreted by the enemies of the Democracy and of the Administration. Their papers and politicians ascribe it to an Administration design to impair the free agency of the State Democracy in their State nominations. Promptness of action would confute such an accusation. Delay of action would not confirm it or even indicate its probability to just men; but it will supply unjust men, of whom there are many, with plausible insinuations which they will not hesitate to vent. The matter should, therefore, be frankly dealt with. The character of the President and the experience and sagacity of his New York secretaries are a proof that such an accusation is groundless. The Administration cannot be supposed to be for or against any of the distinguished Democrats, whose friends would like and will labor to have them nominated. The injury to any such Democrats of entitling them "Administration candidates" or "Anti-Administration candidates" would be that foul blow below the belt in politics which should not and will not mark the manly contests of the manly Democracy of the State. The Administration as a body of fair and wise men would not allow it. The Democracy as a party of earnest, just and intrepid men would not permit it. A surer way of making nominations not worth the having does not exist. It will, therefore, not be resorted to. That Republican makers of mischief, whose minds and methods are saturated with foul devices, should charge and believe this intent only shows that the morals of Blaineism and the ways of Arthurism have survived the defeat of both. Nor is more respect to be given to the charge within the charge—that while disclaiming any intention to interfere, the Administration will covertly and in reality do so, in a way to reap the result and to deny the production of it. Such allegations are but variations played to the general tune of detraction. They are contradicted by the open and honest character of the Administration, which desires to be praised in history for direct and not for indirect action, for truthfulness and not for tergiversation. Democrats will, therefore, do well to disbelieve and discount these Republican charges. They will do well to prepare betimes for a free and representative convention, which will make free and representative nominations. If any Democrat in office, or seeking office, should try to nullify the declarations or smirch the repute of the Administration, by efforts to coerce the free agency of the party in any quarter, he should be handed over to the President to be dealt with, as a policeman would hand over an offender to a magistrate. The Administration will take care of the public business in the nation. The party will take care of the party business in the State. Federal appointments when made will be made on public and on large political grounds, not at all on factional ones, and the appointees will be held to a strict non-interference in inter-party contests, as well as to effective service against the common enemy and for the free ticket of free Democrats, in a free convention, freely nominated. While this is undoubtedly true, the occasion for Republican misinterpretation which the extreme deliberateness of the Administration, in dealing with overdue appointments, supplies is obvious. It is an occasion it would do well not to prolong but to end. The Board of Education yesterday rejected, very properly as it seems to the Eagle, a resolution to

defer for one year the election of a Second Associate Superintendent. Although in form a postponement, the movement in effect was to restrict the work of superintendence to two officers. If this work is to be nominal instead of actual, if principals and teachers are to be subject merely to a theoretical and possible inspection, then it may be fairly questioned whether even one associate is needed, whether the Superintendent alone is not quite equal to the functions of a figurehead. But, according to the understanding and practice of the Board of Education the activities of superintendence are not merely ornamental. The business of education is conducted upon a system conformity with which is expected to be enforced. This of course does not conflict with a reasonable liberty on the part of teachers or a wise choice of methods by principals. If an instructor prefers means of imparting knowledge which in minor respects are peculiar, the preference may be indulged if productive of good results. But as to the fruits of the processes in various schools there must be a uniform test and standard. There must be somebody to take this general measurement, and that somebody obviously is the superintendent. It is necessary for him, while avoiding undue interference, to take care that all departments of the school are efficiently administered, and that its operations are kept within the range contemplated by our plan of free education; that on the one hand simple and fundamental interests are not neglected and on the other disproportionate attention is not given to matters rather beyond the boundary of the common school system. All this work of superintendence may be done without trenching upon the just authority of principals or meddling with their proper business. They have no more reason to find fault with it than the colonel of a regiment has to complain because a general of brigade or division or a commander in chief is constantly looking after the thorough organization and equipment of the whole army. Now the plain, practical question is, How many officers are needed to do this real and necessary educational work? There are forty-six separate school organizations occupying fifty-nine buildings. No doubt if the superintendent were content to appear in each formally for a few minutes now and then, to smile pleasantly at everything he saw, to make complimentary remarks to the principals and the teachers, to address brief "words of encouragement" to the scholars, and to do whatever else might be necessary to make "a thoroughly enjoyable occasion," he could go through the whole perfunctory and cast-iron programme without any help at all, and at the end of the year make a smooth and optimistic report. But there is as little doubt that such superintendence would be entirely superficial and the services of such a superintendent worthless. But if the inside working of things is to be examined, if a just estimate of methods and results is to be made, and if honest and valuable reports on these matters are to be secured, three capable men are not too many to guarantee a constant and faithful supervision of these forty-six schools in fifty-nine

FOUR HOURS.—[8,062½ EMS].

By JOSEPH W. MCCANN; $500 match with W. C. Barnes, New York City, December 15, 1885; minion, solid, 15⅞ ems to lower-case alphabet; 25 ems wide; full-sized cases; no break-line; emptying his own sticks; conditions of spacing same as National Rules:

Some very interesting contributions, both written and practical, have been made recently to the discussion of that branch of the labor question which concerns the relations that should subsist between employers and employed. The old relation has been completely destroyed, and that which has taken its place is something far different and much less satisfactory. No longer does the farmer's "hired man" live in the house of his employer, and sit at his table; the journeyman carpenter or shoemaker, living on terms almost of equality with the slightly more prosperous or enterprising journeyman who paid him wages has disappeared. The causes of the change which these examples illustrate are well known. They are, first, the magnitude of modern industrial undertakings, which has led to a minute subdivision of labor; second, the substitution of corporate for individual employers; third, the growth and adoption of the spirit of modern political economy, which logically inculcates the treatment of labor with the same consideration, and no more, than is accorded to any other of the raw materials or tools of manufacture. The migratory habit, fostered by the ease, speed and cheapness of traveling in our times, has had a tendency in the same direction, by seeming to destroy the sentiment of attachment to one place and to one set of

acquaintances and associates. What these causes—if they are the true causes—have produced is an almost intolerable situation. Every one says, and every one believes, too, that the interests of labor and of capital are identical; and yet those interests are perpetually clashing. There is well-nigh a total lack of sympathy between employer and employed. The corporation which dismisses a faithful workman because there is nothing for him to do, is soulless, and the officer who speaks the fatal word, let his sympathy be never so keen, must discharge the duty which he owes to the company. The workman, on his part, feels no other emotion than one of regret at the loss of time in finding another place, and of inconvenience at being obliged to remove. We need not enlarge upon this topic, or set forth at greater length the condition of things under which wage laborers have become, so far as their employers are concerned, merely a part of the machinery of industry, and under which the employers themselves have thrown off all responsibility for what their "hands" may think, do or say, or what may become of them when working hours are over. It is the fact that the existing relations lead to a vast amount of friction, irritation and loss to all concerned, that has caused some wise managers of corporations and large employers of labor to endeavor to devise means for establishing a better understanding between the parties. The most notable examples of effort in this direction on a grand scale are in the communities formed by M. Godin, at Guise, in France; by Herr Krupp, at Essen; by Sir Titus Salt, at Saltaire, in England, and by the Pullman Palace Car Company, at Pullman, Ill. Of a different class, but not less important in their way are the benevolent institutions founded and maintained by some of the great railway companies of England and the Continent of Europe, and by the Baltimore & Ohio Railway Company in our own country. What has been done at Pullman is told in a joint report made by the Commissioners of Labor Statistics of thirteen States of the Union, as the result of a careful personal inquiry made on the spot. The operations of the Baltimore & Ohio Railroad Company in behalf of its employees are detailed by Dr. W. T. Barnard, in the September and October issues of the Popular Science Monthly. The facts can be summarized only in the briefest possible way. The railroad company compels every person entering its employ to devote a part of his earnings to making provision for sickness, casualty or death; and the company itself has appropriated many hundred thousand dollars as nuclei of the several funds to which its servants make contribution, and upon which, in case of need, they are entitled to draw. There is a minimum sum which is deducted from the wages of all who consent to join the association, but each employee may increase this contribution, with a corresponding benefit, up to a maximum. Provision is thus made for a daily allowance of money for temporary or permanent disability to work, and for the payment of a lump sum to the legal representatives after the death of each person contributing; the payments being larger when the disability or death is the result of accident while in the discharge of duty than when it is the result of other causes. The company has also established a savings bank, the funds of which are lent on easy terms to those who wish to build houses for themselves; it maintains a superannuation fund for old servants of the company; it operates a free circulating library, and has established reading rooms for employees at important stations on the line; it transports the children of its men to and from school along its line, free, and gives half-fare transportation to the families of contributors, and, under contracts with hospitals, physicians and surgeons along its line, the cost of treatment of contributors is greatly reduced. Pullman is in certain respects an ideal town. It is wholly owned by the Palace Car Company, and most of the heads of families are employed by that corporation. It was laid out, and all the sanitary arrangements for a city of 100,000 inhabitants were made before a single house was occupied. Supplied with an ample amount of fresh, pure water; drained both by the surface system and by a system of underground sewers, in the most perfect manner; provided with a variety of attractive public buildings; constructed, as to its dwelling houses, of durable materials, every tenement being connected with the gas, water and sewer systems; with all these arrangements for the material comfort of citizens, it is no wonder that the death rate in Pullman is something which other highly-favored and most healthy towns may hope to, but rarely do, match. The treatment of its men by the company is most wise. Besides excluding from the town, rigidly, whatever might injure the habits, or minister to bad habits, it pays good wages, prefers a resident of the town to a stranger, a married man to a single man, and by other rules manifests an interest in the moral and material welfare of its men

after their work is done as well as while they are doing it. These are most interesting experiments. At present they are nothing more than that, but such as they are every one must wish them success. The motive behind either was not philanthropy, but the idea was to get better, more faithful and more attached service, by stirring the men to something like gratitude, or at least by helping them to see that by contrast with other wage earners they were well treated. The real test has yet to come. Those who remember what the Pacific Mills corporation was under the wise, watchful and fatherly management of the late J. Wiley Edmands, and who know how bitter a strife was waged soon after his death between the operatives and the management, may entertain serious doubts of the permanence of a friendly feeling between the employers and even the best treated body of workmen, under the stress of adversity and of reduced wages. For in the Lawrence experiment there was a combination of some of the features of the Baltimore & Ohio plan with some of those adopted at Pullman. But we need not go into the history of the Pacific Mills strike. Have we not had intelligence, only in the month of October, of a labor trouble at Pullman? It is true that difficulty was greatly exaggerated by newspapers eager to create a sensation, and there was no strike. A few men left their work for some days rather than accept a reduction of wages, but all of them who were allowed to return, did so. This, however, does not tell the whole story. While the excitement lasted a new lodge of Knights of Labor sprang into very vigorous existence, and attracted hundreds of members. Two or three crowded meetings of workmen were addressed by a particularly offensive champion of socialism from Chicago; and although he did not have so much success as he wished, the opposition to him was not so violent as to lead the men into whose assembly he forced his way, to suppress him. These things may not be ominous of evil in the future, but they are not over-encouraging. No cloud seems yet to have come over the Baltimore & Ohio sky. In fact the plan of that company has features which, logically, ought to make it stronger with age. The man who has long served the company and contributed to the benevolent funds, has acquired an interest which it is a direct loss for him to relinquish. Moreover, the plan is one which makes him more, rather than less, manly and independent. That is more than can be said for the system in Pullman, where no man owns his own house and where, beneficial as the feature may be to the people's morals, the whole population is under a species of guardianship. But though both of these systems were to result in failure, there must not be an end of the experiments in this direction. Because the situation between capital and labor cannot be made perfect, is certainly no reason why it should not be ameliorated. Indeed it must be improved, not in the expectation of wholly freeing society from the harm existing relations beget—for in that case the end will be disappointment—but of minimizing it, while acknowledging the stewardship which the possession or control of large capital involves. We have at last, in the figures of consumption in Europe, the evidence of the slack times everywhere prevailing. Poor results to the manufacturer had been the cry for the previous three years, but in the received statistics very little effect on the use of cotton was observable. In fact, until 1883-4, decided progress was shown, and for that year, even after the revisions which have since been made by Mr. Ellison, the total is only slightly under 1882-3. In the meantime, prices of manufactures declined, spinners' profits fade away, the capacity of the public to take goods lessened, and this industry, in common with all other industries of the world, began to feel the suppressive force of conditions under which a contraction of production, the only relief possible, became imperative. No one is surprised, therefore, that the record for the past season shows a decided falling off in the takings of the raw material. The spinners' situation has also been aggravated this year by a short supply of cotton. Two years of deficiency succeeding one another is quite unusual. And yet that has not only been the case, but the deficiency has each season been in the American staple. Furthermore, as a result of this, it has happened that during a period when prices of commodities have constantly and almost universally declined, American cotton has on the average ruled very little lower, and during the winter months (when purchases by manufacturers are so largely made) higher than during the previous season, being prevented subsequently from advancing only by spinners' decreased takings. In fact, when the first half of the season had passed, the position of cotton was thought to be very strong indeed, and the prevailing opinion put the visible supply at the end of the season so small, that the general estimate of values for the last half of the year was a much higher average than has ruled. This

bare statement shows how imperative was the requirement for a decreased consumption, as it would have been impossible to have brought the visible supply down to such figures, without at the same time raising the price of the raw material to very high rates. Working in the same direction also, and closely allied to the foregoing, is the further fact that the growing crop in America has all through the summer promised exceedingly well. Had great urgency in the demand for cotton prevailed during the same months, and the raw material have advanced accordingly, the goods made would in great part have come upon the market with the new crop of cotton, and hence at a time when prices for the raw material were declining rapidly. This is a situation no spinner will willingly accept, for prices of goods seldom follow any upward advance in the rates for the raw material, unless the demand for manufactures is active, especially when there is good reason for believing that the rise is very temporary; in fact, instead of advancing, the goods market in a dull time will rather anticipate so palpable and inevitable a decline in the cost of manufacture. We do not refer to these latter facts, respecting a deficient supply, as the real cause of the decreased consumption through the year, but merely as being, under the circumstances of great trade depression and unremunerative prices, an aggravation of the spinners' situation. The truth is, the production of goods even at the current low values and decreased volume has, until just at the close of the season (when short-time or stoppage of spindles became so general), more than fully supplied the demand. And what should challenge the attention of statesmen and economists, as well as of producers and consumers, is that unusually low prices, restricted production, and yet the demand short of absorbing that production, are conditions of almost universal application the world over, applying not to cotton spinning alone, but to nearly every industry. These will be the controlling facts which will confront the commission appointed last month under the act of Parliament to inquire into the causes of the depression in trade. It is claimed that the commission is to act in the interest of "fair trade" or quasi-protection; but if it makes any proper survey of the field, it will find that depression is not in any sense local, is nowhere more severe than in protected countries, and that protection or free trade has nothing to do with it; that it is rather the automatic action or natural effort of the world's commerce to mold and fit itself to a specie basis of one-half the extent it has grown up under and been adjusted to, the change, moreover, being attempted at a time when the production of the metal, which is thus made to do all the work, has very materially fallen off. This fact is of special interest in this review, because to some extent it foreshadows the future of the trade. That is to say, if progre

[BLINDFOLD WORK.]

ONE HOUR AND A HALF.—[1,635 EMS.]

By WILLIAM C. BARNES, March 27, 1886, Philadelphia National Tournament, nonpareil, solid, 17⅞ ems to lower-case alphabet, 28 ems wide, no break-line, full-sized cases, emptying his own sticks; conditions of spacing, National Rules. (The copy was dictated by Mr. Thienes, one of the contestants, and constitutes a portion of Barnes' total score in the tournament; the proof contained but seven errors, which are allowed to remain in this reprint):

distance before us, and neither very thickly wooded nor very bushy; but no bear was to be seen, although our eye could penetrate the woods for at least two hundred yards. After the first disappointing glance around we thought bruin might have mounted a tree, but such was not the case, as on looking everywhere nothing could be seen of his black body, and we were obliged to bonclude that he had run out of sight in the brief spacc of time we occupied in ascending the little bank. As we were once standing at the foot ef a large sycamore tree on the borders of a long and deep pond, on the edge of which, in our rear, there was a thick and extensive cane-brake, we heard a rushing, roaring noise, as if some heavy animal was bearing down and passing rapidly through the canes directly towards us. We were not kept long in suspedse, for in an instant or two a large bear dashed out of the dense cane, and plunging into the pond without having even seen us, made off with considerable speed through the water towards the other shore. Having only bird-shot in our gun we did not think it worth while to call

his attention to us by firing at him, but turned to the cane-brake, expecting to hear either dogs or men approaching shortly. No further noise could be heard, however, and the surrounding woods were as still as before this adventure. We supposed the bear had been started at some distance, and that his pursuers, not being able to follow him through the almost impenetrable canes, had given up the hunt. Being one night sleeping in the house of a friend, who was a planter in the state of Louisiana, we were awakened by a fervant bearing a light, who gave us a note which he said his master had just received. We found it to be a communication from a neighbor, requesting our host and ourself to join him as soon as possible and assist in killing some bears at that momeno engaged in destroying his corn. We were not long in dressing, and on entering the parlor found our friend equipped. The overseer's horn was heard calling up the negroes, some were already saddling our horses, whilst others were gathering all the cur-dogs of the plantation. All was bustle. Before half an hour had elapsed four stout negro men, armed with axes and knives, and mounted on strong nags, were following us at a round gallop through the woods, as we made directlp for the neighbor's plantation. The night was none of the most favorable, a drizzling rain rendering the atmosphere thick and rather sultry; but as we were well acquainted with the course, we soon reached the house, where the owner was waiting our arrival. There were now three of us armed with guns, half a dozen servants and a good pack of dogs

BEST RECORDS.

In order to give the reader an opportunity to compare at a glance the best records made, we give the following table. As many records were not corrected, the time consumed in corrections has not been given. One hour's work has come to be a standard by which to gauge the speed of typesetting, and in this column will be found the records as they stand at the time this book is printed. The figures in the column headed "size" refer to so many ems to the lower-case alphabet. The measure refers to the number of ems in the line of the type set. Most of these records were made in public matches, but one or two were made in private:

NAMES.	Place.	Date.	Type.	Size.	Measure.	Amount.	Hours.	Per hour.
Alex. Duguid.....	Philadelphia..	Mar. 27, 1886.	Nonpareil.	17⅔	28	3,416	1½	2,277⅓
Jos. W. McCann..	Philadelphia..	Mar. 27, 1886.	Nonpareil.	17⅔	28	3,347	1½	2,231⅓
Wm. C. Barnes....	New York.....	Sept. 10, 1885.	Nonpareil.	16	29	2,160	1	2,160
Wm. C. Barnes....	Philadelphia..	Mar. 18, 1886.	Nonpareil.	17⅔	28	3,220	1½	2,146⅔
Jos. W. McCann..	New York.....	June 4, 1885.	Minion.	15⅞	25	6,350	3	2,116⅔
Alex. Duguid.....	Cincinnati....	Dec. 29, 1885.	Minion.	16	22⅓	2,093	1	2,093
Thomas C. Levy..	Philadelphia..	Mar. 27, 1886.	Nonpareil.	17⅔	28	3,119	1½	2,079⅓
George Arensberg	New York.....	Feb. 19, 1870.	Minion.	17	23⅔	2,064	1	2,064
Ira Somers.....	New York.....	June 4, 1885.	Minion.	15⅞	25	6,075	3	2,025
Joseph Farquhar.	Rochester.....	Mar. 1, 1886.	Brevier.	——	25	2,025	1	2,025
Jos. W. McCann..	New York.....	Dec. 15, 1885.	Minion.	15⅞	25	8,062½	4	2,015⅝
Wm. C. Barnes....	New York.....	Dec. 15, 1885.	Minion.	15⅞	25	7,951	4	1,987¾
W. H. Van Bibber	Memphis.....	Feb. 19, 1886.	Brevier.	12⅔	——	4,935	3	1,645

THE RASTALL SYSTEM.

Since a time when the mind of man runneth not to the contrary the system of type measurement which has been in vogue in this country is that of "ems," or squares of the type. The price paid has been so much per thousand ems, or squares of the body of the type in which the work was set. Thus, if there are 25 ems of any type in one line, forty lines will make a thousand, etc.

But the defects of this plan have long been apparent, inasmuch as some type is cast on a wider or "fatter" standard than others, and while the fat type is to the benefit of the compositor, he gets no more for a vastly greater amount of labor in leaner faces; that is, within certain fixed limitations.

The Rastall System, invented by Mr. Samuel Rastall, Secretary of Chicago Typographical Union, remedies these defects, and gives equal pay for all faces and bodies of type, giving the same advantage almost for large type as for small.

Mr. Rastall's plan is at once simple and effective—that of measuring by the thousand letters, instead of by the thousand ems. It being conceded that the lower-case alphabet is the key to the whole font of type, it is measured as a unit, including the average number of spaces used in converting this number of spaces into words. As there are twenty-six letters in the alphabet, and as this number is not a multiple of 1,000, computation is simplified by using twenty-five letters, leaving off the "z," which is least used of any letter. This makes the basis of computation twenty-five letters of the font to be measured, together with six spaces, or two ems. This is the unit of measurement. Forty of these units would, of course, represent 1,000 letters, together with the estimated number of spaces, 240, for converting the 1,000 letters into words. So, if one unit of the font in which an article is set measures $13\frac{3}{8}$ squares, this amount, multiplied by 40, gives $546\frac{3}{8}$ squares as the exact space which 1,000 letters and 240 spaces will occupy. With 30 squares in a line, this number divided into $546\frac{3}{8}$, gives $18\frac{1}{5}$ as the space in lines which the 1,000 letters and spaces would occupy, and the number of lines marked upon the rod would be the 1,000 measure for the font of type in question.

The Rastall System is altogether fair and elastic, adapting itself unerringly to the character of the type it measures. Its universal adoption would obviate many of the difficulties arising between employers and workmen where the type is lean.

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